

USING NETWORK ANALYSIS TO UNDERSTAND AND ADVANCE FALLS  
PREVENTION SERVICES AND PROGRAMS

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## **Abstract**

The purpose of this study was to understand referral linkages that exist among falls prevention agencies in a southern Ontario region using network analysis theory. This was a single case study which included fifteen individual interviews. The data was analyzed through the constant comparative approach. Ten themes emerged and are classified into internal and external factors. Themes associated with internal factors are: 1) health professionals initiating services; 2) communication strategies; 3) formal partnerships; 4) trust; 5) program awareness; and 6) referral policies. Themes associated with external factors are: 1) client characteristics; 2) primary and community care collaboration; 3) networking; and 4) funding. Recommendations to improve the referral pathway are: 1) electronic database; 2) electronic referral forms; 3) educating office staff; and 4) education days. This study outlined the benefit of using network analysis to understand referral pathways and the importance of implementing strategies that will improve falls prevention referral pathways.

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## **Chapter 1: Introduction**

Falls are an important health issue among older adults (65 years and older) which often results in negative health outcomes, have major health care cost implications and are preventable. It has been found that one in three older adults in Canada will experience at least one fall annually (Scott, Peck & Kendall, 2004; Tinetti & Speechley, 1989) and is the leading cause of hospitalization for seniors in Canada [Public Health Agency of Canada (PHAC), 2006]. Seniors who experience a fall are more likely to have partial or permanent disability, lose their independence, experience hospitalizations, and are at increased risk of hip fractures (LHIN Collaborative, 2011).

In terms of the economic impact of falls, it was revealed that falls accounted for \$6.2 billion or 31% of Canada's overall injury cost in 2004 (SMARTRISK, 2009). These health and economic impacts have spurred on international, national, and provincial level policy initiatives aimed at falls prevention which have been operationalized into programs such as Prevention of Falls Network Europe (ProFaNE), Ontario Integrated Provincial Falls Prevention Framework and Toolkit, Canadian Falls Prevention Curriculum, and the Falls Prevention Initiative. These global and national initiatives have helped to inform local practice, policy, and programs in the Niagara region. Given the insurgence of strategies and associated policies from the Ministry of Health and Long-Term Care in this area, funding was allocated to numerous programs to create and target falls prevention.

The Niagara region now has 43 agencies that are involved in falls prevention activities ranging from home safety, mobility aids, to physical activity programming. Given the variation in the risk factor for "falls" that each of these programs target, and

the continued provincial mandates to create a more tightly integrated health system, it is important to understand how these agencies providing falls prevention programming are working together. This has led to the purpose of the current study which is to understand linkages among falls prevention agencies in the Niagara region with a particular focus on referral pathways. Therefore, this study explores the internal and external factors influencing the referral pathways among Niagara region falls prevention agencies through the network analysis approach.

### **Focus on Falls Prevention**

Falls negatively impact an individual's quality of life. Therefore, there is a greater focus on how to prevent falls (PHAC, 2006). According to the *Health Promotion Glossary* by the World Health Organization (1998), primary prevention is defined as “preventing the initial occurrence of a disorder” (p. 4), which, for the purpose of this research project, reflects efforts (e.g., programs and services) to prevent falls before they occur. There are a multitude of risk factors (i.e., biological, medical, behavioural, and environmental) associated with falls that make it difficult to prevent them (PHAC, 2006). Therefore, falls prevention requires different specialized programs and services. For example, individuals may require safety bars placed in their home to ensure safe mobility (i.e., environmental) while also requiring foot and eye care (i.e., biological) and medication management (i.e., medical). To this end, there have been numerous services focused on each of these aspects individually, but to the detriment of providing an integrated services approach that is easy to navigate for clients. Thus, this requires the individual and/or family members to navigate through this system which may be a

daunting endeavour. To date, little is known about the connections among agencies that would facilitate a more integrated approach to falls prevention.

### **Development of Falls Prevention Programs Internationally**

Falls are a major cost burden in Canada as it was found that an investment of \$906 into falls prevention initiatives would save the health care system \$3,695 in treating falls (Health Canada, 2002 as cited in PHAC, 2006). PHAC (2006) estimates that a 20% reduction in falls could save Canada's health care system \$138 million annually in health care costs related to treating falls. The importance of falls prevention is not only a priority in Canada, it is also an important health issue worldwide as it was found in Japan that 20% of older adults experience a fall every year (Yoshida & Kim, 2006 as cited in World Health Organization, 2007), 21.6% in Barbados, and 34% in Chile (Reyes-Ortiz, Al Snih, & Markides, 2005 as cited in World Health Organization, 2007). The average cost of treating an individual who experienced one fall is \$3,611 USD in Finland (Hendrie et al., 2003 as cited in World Health Organization, 2007) and \$1,049 USD in Australia (Nurmi & Luthje, 2002 as cited in World Health Organization, 2007). The average cost of hospitalization for older adults who experienced a fall is \$6,646 USD in Ireland (Roudsari et al., 2005 as cited in World Health Organization, 2007) and \$17,483 USD in the USA (Carey & Laffoy, 2005 as cited in World Health Organization, 2007). The health and economic benefits of falls prevention strategies are vital to encouraging countries to continue to develop falls prevention interventions and to stimulate research, policy, and practice in this area. To this end, ProFaNE was developed using community funding to disseminate falls prevention best practices to health professionals (Prevention of Falls Network Europe, 2007 as cited in World Health Organization, 2007). Efforts

from this network helped countries to refine their own falls prevention strategies by utilizing and incorporating the falls prevention best practices in the development of their falls prevention programs.

### **National Landscape of Falls Prevention**

At the national level in Canada, there are two established falls prevention strategies: the Canadian Falls Prevention Curriculum and the Falls Prevention Initiative. The Canadian Falls Prevention Curriculum is funded by the Population Health Fund of the PHAC to assist professionals working with older adults to develop skills in designing, implementing, and evaluating various falls prevention programs (Scott et al., 2007 as cited in Scott, Gallagher, Higginson, Metcalfe, & Rajabali, 2011). Several stakeholders including older adults, policy makers, educators, and health professionals, contributed to the development of the curriculum to ensure it was relevant in practice and was patient centred (Scott et al., 2007 as cited in Scott et al., 2011). The second strategy, the Falls Prevention Initiative, was developed in 2000 by Health Canada and Veterans Affairs Canada to fund falls prevention projects across Canada (Health Canada, 2003). These two national activities have helped to fund, provide expertise, and knowledge dissemination about falls prevention and provided essential education for front line staff across the country.

### **Provincial Landscape of Falls Prevention**

Falls are considered one of the leading preventable injuries among Ontario seniors and are a major financial and systems level burden to the Ontario health care system. According to the Ontario Trauma Registry 2011 report, unintentional falls accounted for 38% of hospitalizations and 44% of deaths in Ontario in 2009-2010 [Canadian Institute

for Health Information (CIHI), 2011]. This report also found that individuals aged 65 and older accounted for 71% of all unintentional falls (CIHI, 2011). These startling statistics illustrate the importance of developing falls prevention initiatives to reduce the number of falls occurring in Ontario. Each of the 14 Local Health Integration Networks (LHIN) has a priority focus on falls prevention to which they support through funding for programs and services. Falls prevention is an important area as it is clear that falls account for a high proportion of hospital admission as well as negative health outcomes for the population.

The Ontario government has supported the Registered Nurses' Association of Ontario (RNAO) and LHIN in their falls prevention initiatives. The RNAO developed the *Falls and Fall Injuries in the Older Adult Best Practice Guideline* to guide nurses in identifying older adults at risk of falling and to understand its falls prevention strategies (RNAO, 2005). The LHIN and the Ministry of Health and Long-Term Care identified falls as a top priority in September 2010 and established the Integrated Provincial Falls Prevention Project (LHIN Collaborative, 2011). This project is a partnership between the LHIN and the Ontario Public Health Units with the main goal of reducing the number of falls among seniors aged 65 years and older (LHIN Collaborative, 2011). It consists of developing a falls prevention framework and toolkit for health units to ensure consistency in practice activities across the province. The falls prevention toolkit includes successful falls prevention programs, tools, and resources that health professionals can utilize when providing care (LHIN Collaborative, 2011). In the falls prevention framework and toolkit, there are a number of focal components that are of importance to note for the present study, specifically the *Appropriate Level and Type of Assessment and*

*Intervention* component and the *Inclusive Local Partnerships* component that will be led by the LHIN (LHIN Collaborative, 2011).

The goal of the *Appropriate Level and Type of Assessment and Intervention* component is to ensure clients are receiving the appropriate care they need after experiencing a fall (LHIN Collaborative, 2011). A key aspect of this component is to provide effective referral pathways that meet the client's needs. However, the referral pathway strategy that was recommended in this report guides health care professionals (e.g., program coordinators, physiotherapists, occupational therapists, physicians, public health nurses) to assess which services their client needs, but does not provide a list of falls prevention programs that they can contact (LHIN Collaborative, 2011). This strategy is a good starting point for effective referral pathways, however little is known about how these linkages are operationalized and enacted among front line professionals.

The second component called *Inclusive Local Partnerships* strives to enhance partnerships between LHINs, public health units, and other local falls prevention organizations (LHIN Collaborative, 2011). It is suggested that the collaboration between these organizations will minimize duplication of services and effectively use the resources available to reduce falls (LHIN Collaborative, 2011). The falls prevention framework and toolkit have been an excellent starting point from which to develop, implement, and integrate falls prevention programs. However, given the relative newness of this framework, only now are health care administrators beginning to understand the successes and challenges at the front line of the service delivery. One of which is the inter program coordination and referral pathways used by local agencies.

## **Local Landscape of Falls Prevention**

The Hamilton Niagara Haldimand Brant LHIN (HNHB LHIN) data shows that falls among older adults are a health and economic burden. According to the Ontario Injury Prevention Resource Centre (2008), falls cost the HNHB LHIN \$253 million dollars in medical treatments stemming from 11,233 emergency visits and 3,092 hospitalizations in 2004/2005. These statistics were of great concern to all regions in the HNHB LHIN. In response, the Niagara region developed several community initiatives to prevent falls with the goal of reducing their health and economic impacts. There are currently 43 falls prevention programs serving the Niagara region such as the Community Care Access Centre (CCAC), Geriatric Rehabilitation Program, the Stand Up! Program, and the Niagara Community Support Services. To elaborate on these programs, the CCAC conducts a fall risk assessment and based on the results, the client will be provided with appropriate services to meet their health needs (HNHB LHIN, 2010). This is normally a reactive process where a fall has occurred however, if individuals are receiving other CCAC services and they have concerns about potential fall risk, then assessments may be conducted in a proactive/preventive manner. The Geriatric Rehabilitation Program provides falls prevention interventions such as group exercises and education to Niagara region seniors who have had a referral from their physician (HNHB LHIN, 2010). The Stand Up! Program provides exercise programs and education to seniors in the Niagara community who are interested in increasing their strength, balance, and endurance (HNHB LHIN, 2010). The classes are led by a physiotherapist and a fitness instructor and the seniors are also given knowledge pertaining to falls prevention (HNHB LHIN, 2010). The Niagara Community Support



Services conducts home assessments and outlines maintenance work to promote falls prevention in seniors' homes (HNHB LHIN, 2010).

Unique to the Niagara community is the Fall Prevention Network of Niagara (FPNN) which is a network of individuals from specific agencies who come together to discuss and share information on falls prevention. The goal of these discussions is to promote falls prevention awareness and improve the coordination of falls prevention programs among agencies in the Niagara region. FPNN is chaired by a health promotion professional in the community and this network meets every two months. This current study on referral pathways of falls prevention agencies that deliver programs in the Niagara region was designed after a FPNN strategic planning process where the improvement of referral pathways was identified as a top priority among FPNN agencies. It was clear that the network agencies felt that the referral pathways in the Niagara region were not ideal and needed to be improved to enhance client outcomes. FPNN developed a subcommittee focused on network mapping where a survey was developed and the information from that survey was used by Health Nexus to produce the network maps.

The network maps were used to identify agencies with strong and weak ties to understand the linkages of falls prevention agencies in the Niagara region. Health Nexus is a consulting service that provides support to organizations and individuals to enhance community well-being through the development of health promotional strategies (Health Nexus, 2011). One of the services that Health Nexus provides is network mapping of community programs and interventions which allows agencies to identify the connections and relationships in the network (Health Nexus, 2011) therefore, allowing agencies to identify opportunities for further development of relationships and linkages for referrals

(Health Nexus, 2011). It was clear that using the conceptual framework of network analysis theory to inform the network data on referral pathways was a key element to providing critical information to allow the FPNN network to move forward in improving referrals for clients regarding falls prevention.

## **Network Analysis Theory**

### *Historical Background*

Network analysis theory is a long-standing theory that has been used to understand interactions, relationships, and in general the connections that individuals or organizations have with each other. This work has its origins in the 1930s, where Jacob Moreno used network analysis to study social networks of elementary school students to understand their social interactions and friendships (Valente, 2010; Scott, 1988; Borgatti, Mehra, Brass, & Labianca, 2009). In the 1950s, network analysis became a prominent area of study at University of Michigan with a group focused on studying graph theory in relation to network analysis. It was also during this time that social psychologists were conducting studies on social networks in communities (Valente, 2010). Network analysis was utilized in the field of anthropology in the 1960s when the Manchester Anthropologist group conducted studies on social networks in small villages of Africa (Valente, 2010). During this time, sociologist Harrison White at Harvard University trained several graduate students on the use of network analysis concepts in sociological research (Scott, 2000 as cited in Valente, 2010) and by 1977, Berry Wellman created the International Network for Social Network Analysis. This network was formed to support the development of network analysis methods and applications. In the early 1980s, Lin Freeman started the development of the computer software UCINET which allows for the

electronic production of the visual maps of the social networks which are frequently known as sociograms (Borgatti et al., 2009; Valente, 2010). This software became a popular tool in AIDS research in the 1990s to understand the spread and transmission of disease (Valente, 2010).

Today, network analysis has been widely used in various disciplines such as computer science, biology, and physics (Valente, 2010) and is now a popular theoretical perspective applied to many disciplines. Network analysis is used in community based network studies exploring community capacity (Provan, Veazie, Teufel-Shone, & Huddleston, 2004), community partnerships (Barnes, MacLean, & Cousens, 2010; Provan, Harvey, & deZapian, 2005; Nicaise et al., 2012; Gregson, Sowa, & Flynn, 2011; Fredericks, 2005), inter-organizational linkages (Bergenholtz & Waldstrom, 2011; Provan, Fish, & Sydow, 2007; Powell, Koput, & Smith-Doerr, 1996; Human & Provan, 2000), and interagency collaboration (Cousens & Slack, 1996; MacLean, Cousens, & Barnes, 2011). A prominent researcher in this area is Dr. Keith G. Provan who conducted several studies on public health inter-organizational and community collaborative networks. His studies are foundational and will be used to guide and frame the questions for this study as it pertains to community inter-organizational referral pathways.

### *Terminology Discrepancies*

It was found throughout the academic literature that there are several terms used to describe network analysis theory. The terms used are social network analysis, network analysis, social network theory, and network theory. This appears to be a semantics issue and personal choice of the researcher as these four terms are often used interchangeably

and they identify one theoretical perspective, which is network analysis. Therefore, this study will use the term network analysis as this is the term consistently used by Provan et al. (2004) in his work focused on community based network studies and is thus closely aligned to the focus and research questions of the current project.

The focus of this study will be centrality, density, and strength of ties as these three tenets will inform organizational policies regarding falls prevention. The participants in this research will represent a falls prevention agency and share their agency's falls prevention referral pathways. It is imperative to obtain an agency's perspective as the key findings from this study will impact policies in falls prevention referral pathways at the organizational/agency level in the future.

## **Chapter 2: Literature Review**

Network analysis is the theoretical lens that allows for an in-depth understanding of falls prevention referral pathways. Accordingly, this lens will be used to explore the referral pathways among falls prevention agencies in the Niagara region. This chapter outlines the literature search criteria for network analysis, the broad theory and associated measures of network analysis, and critical reflection on the application of network analysis across various sectors including health services research. Finally, this chapter describes how network analysis is applicable to the proposed research project.

### **Literature Search Criteria**

The researcher used PubMed, Academic Search Premier, and Scholars Portal databases to search for network analysis articles. In the first stage, the researcher used the terms “network analysis” and “social network analysis” to search for general articles on network analysis theory. In the second stage, the researcher focused on foundational network analysis articles in the field of anthropology, sociology, and business in order to gain a wide breadth of knowledge in the application of this theory. Subsequently, the researcher scoped the literature to focus on “network analysis and health” in order to understand the application of network theory in health organizations. Furthermore, the researcher consulted with a member on her Master’s committee, Dr. Cousens, who is knowledgeable in the field of network analysis to assist her with scoping her literature search. After the consultation, the researcher focused on Dr. Keith G. Provan’s work on public health inter-organizational and community collaborative networks as his work was most applicable to the current study on falls prevention referral pathways.

## Network Analysis

Network analysis is a theoretical perspective that provides insight into the connections and relationships among people and agencies (Valente, 2010; Provan et al., 2004). The network includes actors (i.e., people or organizations) and relational ties (i.e., linkages between people or organizations) (Webster & Morrison, 2004). According to Webster and Morrison (2004) these relational ties can differ “in direction (symmetric or asymmetric), valence (positive, neutral, or negative), strength (weak, moderate, or strong), and content (e.g., advice seeking, resource sharing, informal communication, and so on)” (p. 9). It is important to note the concepts of power and dependence in network analysis as actors with power (e.g., central actors in the network) are more likely to influence decisions of those who are dependent upon that power (e.g., peripheral actors in the network) (Thorelli, 1986). There are several network measures at the individual and organizational levels that are discussed in the literature and it is clear that the research question and the researcher’s approach dictate the extent to which these measures are incorporated into the study. This was reflected in a study conducted by Provan et al. (2005) where they investigated the collaborative effort of agencies in a small community focused on preventing chronic diseases, specifically diabetes. This study used a network analysis approach, specifically the measures of density, centrality, and multiplexity to answer their research questions on agency involvement and network interconnectedness (Provan et al., 2005). The network measures density and centrality are frequently used in this field of research as they allow for an understanding of relationships and connections among organizations. This is further supported by a study exploring the structure and types of ties among organizations of a health promotion network in Canada using whole

network analysis (Barnes et al., 2010). This study focused on four types of ties: information, resources, marketing, and fundraising and used density and centrality to answer their research question (Barnes et al., 2010). These are two examples of community based network analysis studies that used certain network measures which were suited to their research questions. This study focuses on three main measures that were most frequently used in organizational studies including: density, centrality, and type and strength of ties. These three measures are essential in describing the structure of the falls prevention referral network in this present study.

Network analysis by way of network maps is a useful method to truly understand the relationships among organizations. These relationships whether weak or strong, reciprocal or not allow for a greater understanding of how organizations interact, but does not inform the researcher as to *why* these relationships exist. Yet, understanding key features of network analysis allows for the interpretation and starting point from which to understand these relationships.

### **Network Analysis Key Measures**

Three key network measures that will be the focus of this study are: density, centrality, and type and strength of ties. *Density* is the number of connections within a network divided by the total number of possible links (Valente, 2010; Webster & Morrison, 2004). It is often associated with cohesion as it measures how many ties are present in a network and is believed to foster collaboration among the actors due to the number of ties established (Webster & Morrison, 2004). *Centrality* is the concept of identifying the central member of the network (Valente, 2010). The central member is the leader of the network, is connected to the majority of the people in the network and is

often in the position of power due to their greater access to knowledge and resources (Valente, 2010; Cook & Emerson, 1984). Central organizations can also be identified in the core-periphery analysis where there are central and periphery organizations (Valente, 2010). Periphery organizations are important as they can be integrated into the network, can be central members of another network, or prefer to be in the periphery due to their level of involvement (Valente, 2010). An example of a core-periphery network map is illustrated by Valente, Coronges, Stevens, & Cousineau (2008) study where they examined the inter-organizational network of the Children's Health Initiative of Greater Los Angeles to understand the collaboration and communication strategies among the coalition members and found that there were diverse organizations (i.e., government, health plans, schools) that were at the core of the network map and the service providers were on the periphery. *Type and strength of ties* are important in a network as it has been shown that strong ties among actors were associated with increased trust (Kenis & Knoke, 2002). Trust among actors is established through strong communication, information sharing, and collaboration (Kenis & Knoke, 2002).

These key measures of network analysis allow for a lens from which to understand networking in terms of relationships and connections between organizations, thus providing a potential fruitful starting point from which to reflect and create enhancements in referrals among falls prevention agencies.

### **Application of Network Analysis**

The following section examines in-depth studies that have applied a network analysis lens across various industries.



Network analysis has its foundations in the field of sociology which has been applied to various disciplines such as organizational studies, strategic management, business studies, health care services, public administration, sociology, communications, computer science, physics, and psychology (Provan et al., 2007). This application has varied in the focus of the projects and the methods used. The following section provides an outline of common themes of where and how network analysis has been applied in various studies and the findings outlined through identified network analysis themes together with a summary and rationale for the application of network analysis to the present study.

Network analysis has been used as a theoretical basis for several inter-organizational studies (Bergenholtz & Waldstrom, 2011; Provan et al., 2007) focused on understanding collaboration among the biotechnology industry (Powell et al., 1996; Barley, Freeman, & Hybels, 1992), importance of building legitimacy in a competitive industry (Human & Provan, 2000), importance of partnerships among sports organizations (Cousens & Slack, 1996), and the role of linkages in a basketball network (MacLean et al., 2011).

### ***Collaboration***

Collaboration and types of ties have been the focus of research in the biotechnology business sector. It is clear that inter-organizational networks are essential for efficient business practices to enhance partnerships and collaborations, which allows for new product development and innovations. Network analysis provides a visual representation of the partnerships and collaborations that have developed among companies to understand the strength and frequency of those connections. Powell et al.

(1996) examined the types of collaboration among biotechnology firms using a network structure approach and found that the research and development alliances are the central members in the network as they have many resources and are involved in diverse types of collaborations. It has been found that smaller biotechnology firms are eager to form alliances with prominent biotechnology firms to gain access to financial, marketing, and manufacturing resources of these firms (Barley et al., 1992). The alliances between smaller and larger biotechnology firms are mutually beneficial as the smaller firms provide scientific and technical expertise and the larger firms provide financial, marketing, and manufacturing support to develop innovative products (Barley et al., 1992). These firms are involved in collaboration to enhance and further their competencies and promote innovation as they connect with one another to develop and support new ideas and products (Powell et al., 1996; Barley et al., 1992). It is thus of interest in the present study to use this current understanding of collaboration and strategic alliances for innovation and to understand how this may impact on referral pathways.

### ***Legitimacy***

Legitimacy can be referred to as the credibility an organization has established in the industry thereby, increasing its visibility and attracts the attention of other competing organizations (Human & Provan, 2000; DiMaggio & Powell, 1983). Building legitimacy in an industry is an important component to successful business practices and can impact on the network development. Human & Provan (2000) conducted a study investigating the evolution of legitimacy in two networks of the wood products manufacturing industry where one business succeeded and one failed. Both networks developed legitimacy

however; the successful business was able to sustain its legitimacy by using both the inside-out and outside-in approaches where legitimacy was built within the business and also outside the business among external stakeholders (Human & Provan, 2000). Inside-out approach involved meetings within the organization to discuss direction of the company and outside-in approach required networking and collaboration with external organizations to successfully implement business strategies (Human & Provan, 2000). The findings suggest that it is imperative to establish legitimacy within and outside the business, as both strategies are essential for business sustainability (Human & Provan, 2000). This aspect of legitimacy may be an important factor to address in referral pathways work because falls prevention program sustainment may require legitimacy to be established within and external to the organization. Integrating questions pertaining to legitimacy will help to highlight and explore whether legitimacy of the falls prevention organizations, programs, and services in turn impact referrals due to aspects of trust that the programs they are providing are effective.

### ***Partnerships***

Inter-organizational networks have been researched in the area of sports management to understand the linkages that developed among sport organizations. It is important to understand the frequency and strength of the linkages in order to identify and understand which types and characteristics of these linkages are effective for sport organizations. Cousens and Slack (1996) examined the linkages between North America's major professional sport leagues and their partnerships to understand the antecedents and their effect on the network structure using a theoretical network perspective. The findings illustrate that partnerships between professional sport leagues

and corporate sponsors that have been established for several years are more likely to dominate and become central members of the network structure than new sponsors who are on the periphery, because the central members may have increased power and resources (Cousens & Slack, 1996). Linking to the work with falls prevention, the current funding models in health care for programs is seen in base funding from the government for programs that is often sustained over time and most likely to be seen as central and become recognized in the community. Whereas, there is often new funding infused periodically on a limited basis for the creation of new programs, which may not be sustained over the long term. These different dynamics would thus have implications for centrality and partnership within a referral pathway.

### ***Linkages***

An important study in sport management by MacLean et al. (2011) on understanding the linkages that exist among a community of basketball providers in one Canadian region is reflective of the current study where both quantitative and qualitative methodologies were used. This study used quantitative surveys to develop the network maps and qualitative interviews to understand the reasons behind the interconnections displayed on the network maps (MacLean et al., 2011). The qualitative interviews had questions inquiring about the barriers and facilitators of linking with other basketball organizations with the key findings pertaining to the internal reasons for lack of linkages. The first was the inability to hire specialized staff to develop and maintain relationships and the second was the lack of initiative from organizations to develop key collaborative partnerships (MacLean et al., 2011).

These studies illustrate the importance of collaboration, legitimacy, partnerships, and linkages in business and sport management practices. Establishing long-term collaboration and partnerships with other organizations to provide effective services to clients by combining resources and utilizing many skills is highlighted through this theoretical perspective. It is important to understand the role of legitimacy as legitimate organizations are considered more trustworthy and used by clients and recommended by other organizations, which in the current context would reflect falls prevention referrals. Understanding linkages among organizations is essential in order to realize what linkages are facilitating and hindering network development therefore, organizational changes can be made to improve the network structure (MacLean et al., 2011).

Several studies used the quantitative network analysis approach to understand their network structure and one study focused on the linkages of a basketball network used both quantitative and qualitative methodologies (MacLean et al., 2011). The study (MacLean et al., 2011) that used both quantitative and qualitative methodologies provided a holistic view of the network as the network structure was displayed as well as the reasons for that structure. The key findings from the business and sports management literature illustrates that building key collaborative ties and legitimacy are essential to the sustainability and success of the organizations (Cousens & Slack, 1996; Human & Provan, 2000). The established collaborative network and developed legitimacy promotes trust and value of the organizations therefore, clients are more likely to utilize the services provided.

## **Network Analysis in Health Services Research**

Many concepts (e.g., legitimacy, collaboration, partnerships) have been gleaned from the organizational literature and applied to the health services field. This has become a logical linkage of concepts given the similarities in the desired outcomes of improved network and organizational performance. It is clear that network analysis has applications to health services research given the need for improved collaboration and integration across the health care settings. Furthermore, network analysis has been found to be a reflective tool that aided public health professionals in assessing their own collaborative networks by way of network maps which allowed them to examine areas where collaboration could strengthen (Kothari et al., 2012). Network analysis has been applied within the health care context to examine health promotion (Fredericks, 2005), patient safety (Cunningham et al., 2012), quality of care (Cunningham et al., 2012), health care teams (Cott, 1997), and knowledge transfer activities (Palinkas et al., 2011). As well, research has examined the importance of collaboration and partnerships among health care organizations and public health units (Barnes et al., 2010; Provan et al., 2005; Nicaise et al., 2012; Gregson et al., 2011; Fredericks, 2005). To this end, the following section outlines the work that has been conducted in the health field using network analysis which provides greater context and understanding of how network analysis can then be applied to the current project.

### ***Collaboration and Linkages***

Understanding how partnerships and community collaboration are established and operate in health promotion programs provides vital information to understand what collaborative strategies among organizations are needed to improve the overall health of

individuals. There are several studies that address community partnerships and collaboration using network analysis such as a study conducted by Barnes et al. (2010) examining the structure of the health promotion network and identifying the relationships in the health promotion network using quantitative methodologies of network analysis and network mapping. This particular study analyzed four types of linkages and found that information sharing had the highest number of linkages among organizations in the health promotion network which means that organizations are sharing information with each other in the form of meetings and electronic correspondence (Barnes et al., 2010). Also, the study findings suggest that educational organizations are central members of the network, emphasizing the importance of school boards participation to reach children and families regarding healthy lifestyles promotion (Barnes et al., 2010) thus lending support to the continuation of the role of public health in the schools as well.

Provan et al. (2005) investigated the degree of collaboration and involvement among organizations in the network of a small community along the US-Mexican border to address the prevention of diabetes. Barnes et al. (2010) mirrors this study's findings where it was found through quantitative measures that information sharing among agencies addressing diabetes prevention were strong due to frequent communication among those agencies (Provan et al., 2005). The importance of information sharing among community organizations is important to consider in falls prevention programs referral pathways where processes, successes, and challenges to information sharing can be elicited.

Nicaise et al. (2012) conducted a study examining the relationships between the mental health and social care services in deprived areas of Brussels and London using

network analysis and Leutz's levels of care integration which focuses on linkages, coordination, and full integration of services. The findings suggest that the Brussels and London networks were fragmented and lacked integration. In these networks, dense linkages were found to be within the clusters of services rather than between the clusters of services thus, services were more likely to connect with one another than with other services in the network (Nicaise et al., 2012). These findings were corroborated in a study focusing on understanding the connections of a developmentally disabled demonstration (DDD) program using network analysis. It was found that core DDD programs were more likely to collaborate among one other, but not with programs on the periphery of the network (Fredericks, 2005). The study's researchers suggested that in order to improve the integration of services, agencies need to have a designated organization that specialize in referrals between organizations to diffuse information so that more services could be identified and clients would receive the care they needed (Nicaise et al., 2012). The focus on linkages among health services in this study is a key concept that will be useful in understanding the referral linkages among falls prevention agencies.

Collaboration can be measured in health services research by drawing from various subject areas and one area is the use of evidence-based practices (EBPs) (Palinkas et al., 2011). Palinkas et al. (2011) investigated the influence of social networks of information and implementation on whether EBPs were adopted among twelve California counties using both quantitative and qualitative methodologies. The study found that the network provided systems leaders with information about EBPs and the adoption process of EBPs. Furthermore, the findings suggest that collaboration is an



essential component in implementing EBPs, specifically in small, rural agencies where resources are limited (Palinkas et al., 2011). An interesting study conducted by Gregson et al. (2011) examining the local and regional partnerships development of the social marketing program entitled “*Network for a Healthy California*” found that the 2007 network map indicated there was an increase in counties’ participation, an increase in local agencies working together, and that the networks were more integrated as compared to those in 2001.

The common themes emerging from these studies are the importance of collaboration and integration among health care organizations or public health units. The majority of the studies used network analysis to obtain quantitative network measures and network maps to visualize the degree of collaboration among agencies. Although there are few studies that used both quantitative and qualitative approaches, it is important to note that qualitative methodologies add a contextual understanding to the quantitative measures (Harris & Clements, 2007; Kwait et al., 2001; Nicaise et al., 2012).

### ***Professional Homophilic Relationships***

Network analysis has been used in health services research to study the impact of professional homophilic relationships among public health professionals in public health units and among health professionals in long-term care (LTC) teams which demonstrates the use of network analysis at a more local and meso level of the organization.

Professional homophilic relationships are professionals who tend to communicate and build relationships with individuals who are in the same or similar profession as their own (West & Barron, 2005). However, it may have implications at the micro level of analysis such as enhanced communication, collaboration, coordination, and referral

guidelines among various professionals at the provincial level. Yousefi-Nooraie, Dobbins, Brouwers, & Wakefield (2012) conducted a study to investigate if and how public health staff in an Ontario public health department corresponded with their peers to assist them in using evidence-based research in their practice. The network analysis showed there was low density in the overall network and the majority of staff corresponded with peers in their own division when seeking evidence-based information.

Cott (1997) investigated the structure of LTC teams based on the relationships formed among health care professionals using the network analysis approach. The findings show that the two sub-teams identified are a multi-professional sub-team and a nursing sub-team (Cott, 1997). The two sub-teams are different as the multi-professional sub-team is labeled as an “organic” structure with a strong focus on decision-making and problem-solving whereas the nursing sub-team is a “mechanistic” structure where the importance lies in task work (Cott, 1997). These two types of teams suggest that there is a hierarchical structure within these teams where the multi-disciplinary professionals are the decision-makers and the lower status nursing professionals are providing care to the patients (Cott, 1997). These two studies focused on understanding the linkages among health professionals’ working relationships and found that these professionals are more likely to connect with individuals within their department than outside of it. The main point of emphasis in this finding is that health professionals are more comfortable seeking information and working with those that are within their area of specialization, than to explore other relationships. This demonstrates professional homophilic relationships rather than heterogenic linkages (i.e., health professionals seeking information from a wide variety of sectors, including those outside of their scope of

practice). This finding may be reflected in falls prevention programs and services where health professionals may feel more comfortable referring their clients to programs they recognize due to strong established working relationships than to new, unfamiliar programs.

### ***Effectiveness and Sustainability***

A systematic review conducted by Cunningham et al. (2012) examined the literature on health professionals' network structures based on effectiveness and sustainability in the area of quality of care and patient safety found that many of the studies focused on the structural relationships of health professionals. Recent studies suggest that collaboration among health professionals is likely to improve quality of care among patients (Cunningham et al., 2012). However, cliques, professional or gender homophily, and dependency on central organizations or individuals have been identified as barriers to improving quality of care and patient safety (Cunningham et al., 2012). Many studies have focused on the structural networks of health professionals, however it was outlined that more comprehensive future studies should focus on investigating the relationship between the network structures and health outcomes (Cunningham et al., 2012). The focus on network structures and health outcomes will assist in identifying key factors that may improve the quality of care and patient safety aspects in a health care setting (Cunningham et al., 2012). This study illustrates the importance of effective collaboration among health professional networks and emphasized greater importance on conducting studies on whole network structures and health outcomes.

### ***Network Analysis and Referrals within a Health Care Context***

Network analysis has been applied to various health services research ranging from collaboration in health promotion programs, to investigating the structure of LTC teams. However, there are two studies that focused specifically on inter-organizational referrals of health programs. First, Kwait, Valente, & Celentano (2001) used quantitative and qualitative methodologies to identify the effectiveness of the referral process in HIV/AIDS programs in Baltimore. They found that the majority of HIV/AIDS programs in Baltimore were well connected and that personal relationships established among coordinators were essential in providing client referrals (Kwait et al., 2001). A second study on tobacco control programs and inter-organizational relationships using mixed methods found that lead agencies had better communication strategies and more productive relationships than other state agencies with regards to tobacco control programs (Krauss, Meuller, & Luke, 2004). These studies illustrate the importance of using both quantitative and qualitative methodologies to obtain a comprehensive and contextual understanding of the inter-organizational referral pathways. This approach is effective in obtaining structural network measures and contextual understanding of the linkages among organizations which will serve as a guide to this proposed study.

### **Importance of Network Mapping Descriptions and Qualitative Research**

Upon reviewing the studies here, it is apparent that research methodologies vary depending on the researchers and the question of interest. Many network analysis studies (Harris & Clements, 2007; Kwait et al., 2001; Meltzer et al., 2010; Nicaise et al., 2012; MacLean et al., 2011) produce network maps and some add the contextual meaning of those findings by using qualitative methodology. The purpose of network analysis is to

provide an in-depth description of the structure and dynamics of particular groups (Lurie et al., 2009). The development of network analysis is based on the application of quantitative software. Therefore, the majority of research projects using network analysis have been analyzed quantitatively (Lurie et al., 2009). Network analysis shows the various connection patterns among individuals or organizations in the network through a network map however, it does not explain *how* and *why* certain interaction patterns affect the function of the organization or social group (Scott et al., 2005). Network maps display structural aspects of the network however; they do not necessarily provide information on the quality of the relationships within the network (Harris & Clements, 2007; Kwait et al., 2001; Meltzer et al., 2010; Nicaise et al., 2012). It is important to understand the composition of the network and include a qualitative aspect to understand the contextual factors of the relationships within the network (Harris & Clements, 2007; Kwait et al., 2001; Nicaise et al., 2012). The application of qualitative methods provides in-depth information about the “quality” of the relationships formed in the networks (Harris & Clements, 2007).

This information on the quality of the relationships can then be used to inform the direction of the falls prevention agencies in the Niagara region with the hopes of improving the maps in the future. To this end, it is clear that maps can be used as a baseline of information about the network, which when supplemented with qualitative research will encourage subsequent actionable changes. For instance, for this particular study, network maps provide a visual representation of the network, however those interested in this work at an applied level need to answer the questions of what works and what is problematic within these organizational relationships and interactions in order to

make improvements for communication, collaboration, and coordination to enhance falls prevention referral pathways.

### **Summary of the Network Analysis Literature**

The key points that can be gleaned from the network analysis studies are that in successful networks, information sharing among health agencies is frequent (Barnes et al., 2010; Provan et al., 2005), there is an emphasis on promoting and implementing integrated health services to better meet the needs of patients (Nicaise et al., 2012; Gregson et al., 2011; Fredericks, 2005), and it is imperative to conduct studies on the whole network structures and health outcomes to improve the quality of care patients receive (Cunningham et al., 2012).

The majority of the studies conducted used the quantitative network analysis tool to obtain network measures. There are few studies that used both quantitative network analysis and qualitative interviews to obtain a comprehensive understanding of the network structures and to answer applied questions about these structures that would guide quality improvements to network collaboration and relationships. The inter-organizational referral studies on HIV/AIDS programs by Kwait et al. (2001) and tobacco control programs by Krauss et al. (2004) lend support to the use of a qualitative methodology to understand the referral mechanisms. These studies support the use of qualitative interviews in this current project which will provide a comprehensive and contextual understanding of falls prevention referral pathways in the Niagara region.

### **Research Purpose**

Network analysis has not been applied to falls prevention programs and services to understand referral linkages among health care agencies. From the literature review, it

is clear that network analysis provides an excellent guiding framework from which to examine this area to allow for a greater understanding of these pathways that link agencies. Therefore, the purpose of this single case study is to understand the referral linkages that exist among falls prevention agencies in the Niagara region using network analysis theory. The following two questions guiding this research project are:

1. What internal factors influence the level of collaboration and integration in the network of falls prevention agencies?
2. What external factors influence the level of collaboration and integration in this case?

### **Chapter 3: Methodology and Methods**

This chapter outlines the study design, including details on the methodological approach of a single case study, associated data collection methods, data analysis, trustworthiness, and ethical considerations.

#### **Qualitative Research**

Qualitative research allows investigators to study phenomena or issues in-depth and detail and is focused on exploring and explaining the nature of the phenomenon or issue (Patton, 1990). The qualitative approach is ideally suited to this research project as it allows for a deeper understanding of referral pathways in falls prevention programs and services through the close interaction with the agencies involved in these pathways. To this end, a single case study approach was applied to this study.

A single case study methodological approach focuses on understanding phenomena in a real life context (Yin, 2009). This was done within the interpretivist paradigm, which guides the methodological approach, data collection, and analysis.

#### **Interpretivist Paradigm**

The interpretivist paradigm states that reality is socially constructed by existing theories and worldviews (Willis, Jost, & Nilakanta, 2007) where groups of individuals share the same beliefs based on the similar theories and worldviews they have agreed upon. Thus, when a group of individuals share the same beliefs, they have socially constructed what they believe is their reality (Willis et al., 2007). Therefore, this paradigm is directly applicable to this research study where the purpose is to understand what health professionals believe are the factors that impact the referral pathways of



Niagara region falls prevention programs based on their experiences and perceptions in their professional roles. Therefore, the interpretivist paradigm is appropriate for this study as it allows for a contextual understanding of perceived impacts on referral pathways with respect to falls prevention agencies (Willis et al., 2007). The following section outlines the methodological approach used and its alignment to the interpretivist paradigm.

### **Methodological Approach – Single Case Study**

In this study, the single case was the falls prevention network in the Niagara region as this network is directly involved in the falls prevention referral pathways. This methodological approach was ideal for this project because the goal is to obtain an understanding of a phenomenon in a real life context (Yin, 2009) and in this case, the phenomenon is the referral linkages that exist among falls prevention agencies within the Niagara region.

**Critique of Case Study Approach.** Case study has been criticized for having an unclear definition and has been referred in the literature as a methodology, method, or research design (VanWynsberghe & Khan, 2007). The lack of clarity is due to how the case study approach has been referred to in the literature (VanWynsberghe & Khan, 2007). When case study is referred as a “method,” it suggests that it is a form of gathering data whereas, “research method” includes the various means of gathering data such as interviews, focus groups, document analysis, surveys, and observation (VanWynsberghe & Khan, 2007). Therefore, it is clear that the case study approach is not a method instead, it is an approach where researchers can investigate a phenomenon in a real life context (VanWynsberghe & Khan, 2007; Yin, 2009).

## Methods

**Agency Selection.** The agencies for this study were selected based on the purposeful sampling technique to obtain information-rich cases that accurately depict how agencies function with regards to falls prevention referral pathways (Patton, 2002). The agencies selected were representative of the various stakeholders in this area, as well as where they are represented on the previously created network maps. Therefore, the types of organizations invited for interviews were falls prevention agencies (N=2), physiotherapy clinics (rehabilitation, acute, home care physiotherapists; N=2), community agencies (N=5), medical clinics (N=1), long-term care agencies (N=1), family health teams (N=2), and Niagara Emergency Medical Services (N=2). Respondents were knowledgeable and involved in the referral process of the falls prevention programs in their respective organization and thus they were able to purposefully inform the purpose of this study (Hesse-Biber & Leavy, 2011; Creswell, 2007). These agencies are involved in providing effective client referrals thus they were able to provide expert insights into this area of research. The goal of this study is the understand the agencies' role in the falls prevention referral processes in the Niagara region therefore, two health professionals from two separate agencies were contacted to participate in the pilot interviews to provide an overview of their falls prevention work through an organizational lens. These agencies were selected based on their FPNN involvement and those outside the FPNN (i.e., medical clinics, family health teams) to provide a comprehensive overview of falls prevention referral pathways in the Niagara region. The agencies were selected from the FPNN network maps consisting of agencies with strong ties (N=3) and agencies with weak ties (N=5) to obtain an accurate portrayal

of the types of linkages present in falls prevention referral pathways and the associated reasons why this may be the case. Other important agencies (i.e., medical clinics, family health teams) were selected because they were deemed by the researcher and the thesis committee to be a vital aspect of the overall care and referral pathway for clients who have experienced a fall, yet they may not be represented on these network maps due to their lack of survey response. The agencies that met the criteria were contacted with a letter of invitation (see Appendix A) asking if they would like to participate in the study. These agencies were selected for the study because their primary role was to provide falls prevention programs, and because they have a secondary and implicit role, of referring clients to other services. Therefore, they have expertise in the area of falls prevention referral pathways in the Niagara region.

**Agencies and Sample Size.** The purpose of qualitative research was to obtain contextual understanding of the issue or phenomenon under study. Therefore, a sample of 15 participants was sufficient to achieve saturation of the data obtained (Hesse-Biber & Leavy, 2011). Saturation was reached when there were no new themes or categories emerging from the data collected (Corbin & Strauss, 2008).

**Data Collection Procedures.** The data collection methods used for this study were document analysis and individual interviews. The case study approach is often associated with using various sources of evidence (e.g., document analysis, interviews, focus groups, observations) to obtain a comprehensive overview of the phenomenon (Yin, 2009). Therefore, document analysis and individual interviews with a variety of individuals and agencies were deemed appropriate and sufficient to meet the goal of case study research.

**Document Analysis.** Documentation of formal falls prevention referral policies is integral to understanding the function of the referral pathways in falls prevention agencies (Yin, 2009). The researcher attempted to obtain formal falls prevention referral policies by asking the participants about their organization's formal referral policies during the interview and conducted an extensive internet search on local primary and community care websites.

**Individual Interviews.** The individual interviews were based on an interview guide approach which allowed the researcher to prepare semi-structured questions for the topic under investigation and allowed participants the opportunity to share additional perspectives throughout the interview (Patton, 1990). Appendix B provides the interview guide and probe questions that were used for this study. This semi-structured interview guide was developed based on the theoretical basis of previous studies, theories, and concepts of network analysis. These theories and concepts were used as sensitizing frameworks in the development of the questions (Blumer, 1969). The sensitizing framework was essential in examining the various concepts in the theoretical perspective of network analysis. This framework allowed the researcher to discuss the main points as well as additional points that were presented in the interviews. The inclusion of probing questions in the interview guide allowed the researcher to delve deeper into the topics discussed throughout the course of the interviews. At all times, the researcher allowed the participants to discuss points that emerged in the interview that linked to the falls prevention referral pathways. This provided the opportunity to the participants to share points that they believe were particularly important but may not have been represented on the interview guide.

Pilot tests of the interview guide were conducted with two participants who were familiar and involved with the Niagara region falls prevention referral pathways. The pilot tests were vital as they provided the researcher with feedback on the interview design and allowed her to make the essential revisions for improvement (Turner, 2010; Kvale, 2007).

The interviews were conducted at the participant's location of choice, time, and date that was convenient for him/her. The participants were asked to read and sign the informed consent form and were encouraged to ask any questions about the study prior to the start of the interview. The interviews were approximately 30-60 minutes in duration and were conducted over a period of four months from November 2012 to February 2013. During this time, no new falls prevention initiatives emerged (e.g., funding from government to support new programs) therefore, this time lapse of 4 months during which the interviews took place would not be influenced by any external factors. After the interviews were conducted, the researcher recorded initial reflections and perspectives on the interview in a memo writing format that was used to inform and ensure accurate data analysis (Milne & Oberle, 2005).

### **Qualitative Data Analysis**

The interviews were digitally recorded and transcribed verbatim by the researcher to allow reflection on the specific details of the interviews, to become immersed in the data, and to aid in the initial data analysis process (Kvale & Brinkman, 2009). This transcription resulted in 153 single-spaced typed pages. The hard copy of the transcripts were thoroughly read line by line to ensure the researcher was immersed in the data obtained and key words and notes were identified in the margins (Hsieh & Shannon,

2005; Miles & Huberman, 1984). The transcripts were uploaded to the NVivo10 computer software to aid the researcher in sorting and organizing the data during the data analysis process.

A constant comparative data analysis method was utilized for this study as it allowed for key themes to emerge through a continuous comparative method (Glaser & Strauss, 1967; Corbin & Strauss, 2008). This was an inductive process where the researcher initially started coding the data by establishing key meaning units that contributed to the development of key themes (Corbin & Strauss, 2008). Those key themes were then compared to reveal relationships that existed among those themes (Corbin & Strauss, 2008).

### **Trustworthiness**

Qualitative researchers examine these four aspects: credibility, transferability, dependability, and confirmability to enhance rigour of the data. This study examined these four aspects to ensure rigour of data is satisfied.

**Credibility.** Credibility evaluates the degree of ‘truth’ of the research findings (Lincoln & Guba, 1985). Denzin (1989) states that it is essential to review the credibility of the data. Credibility was achieved by conducting researcher triangulation and member checking with stakeholders. Researcher triangulation is the process where an experienced qualitative researcher who was not involved in the current study read the original transcripts and developed key themes, which were then compared to the key themes found by the study’s researcher (Patton, 2002). The differences that emerged in the comparison of the key themes were discussed and resolved among the two

researchers, which provided deeper insight into the phenomenon under investigation (Patton, 1999). There were minimal points of discrepancies between the researchers and the themes that each individual developed. The most common discrepancy was in relation to the description title of the theme to be used and in two instances where the researchers merged two themes into one as through the discussion they found that the ideas were very similar. In relation to the titles of the themes, through a productive consensus building conversation, the researchers worked to establish the most appropriate title. Member checking with stakeholders occurred when the study's researcher presented the findings of the study to a group of community stakeholders who provided feedback (Lincoln & Guba, 1985). The researcher used the feedback to refine and revise the conclusions of the study to truly reflect the participants' experiences (Lincoln & Guba, 1985).

**Transferability.** Transferability reflects the extent that the research findings can be applied to other contexts (Lincoln & Guba, 1985). The transferability of data was noted as the single case was selected based on certain criteria and the description of the single case was included.

**Dependability.** Dependability assesses the likelihood that the research findings are consistent and can be replicated (Lincoln & Guba, 1985). Dependability was satisfied using two methods: the "Skeptical Peer Review" and audit trail. The "Skeptical Peer Review" is the master's committee who asked critical questions about the methods used and the interpretation of the data. This process allowed for an external examination of the data (Devers, 1999). A clear audit trail of the data collection process was recorded and followed according to the plan devised.

**Confirmability.** Confirmability evaluates the extent to which the research remains unbiased (Lincoln & Guba, 1985). Confirmability is achieved through the researcher's awareness and search for negative cases (Devers, 1999). The researcher reviewed the data and noted any deviant cases that appeared from the single case used in this study. These cases contribute to the knowledge and theories of falls prevention referral pathways.

### **Ethical Considerations**

**Research Ethics Board Approval.** An application for ethics review of the proposed study on referral pathways of falls prevention programs was submitted to Brock University's Research Ethics Board (REB) on April 25, 2012. The study was reviewed and received ethics clearance through Brock University's REB on May 15, 2012 (11-268-LAW) (see Appendix C).

**Informed Consent.** The participants were briefed on the purpose of the study, the main study design, and the role they will have in this research prior to becoming participants in the study through the letter of invitation (see Appendix A) sent via an invitation e-mail script (see Appendix D) by the researcher and Dr. Madelyn Law. Participants were informed and aware that their participation was voluntary and they could withdraw from the study at any time. Twenty-two participants were contacted to participate in the study in which fifteen accepted the invitation, two declined due to busy workload, and five did not respond to the letter of invitation sent. A letter of informed consent was provided to the participants prior to the interview session and the signed letters were collected at the interview (Patton, 2002). A template of the informed consent letter may be found in Appendix E.



**Confidentiality.** The participants of this study were informed that all personal information, voice recordings, and transcripts would remain strictly confidential.

Pseudonyms were used in all written documents to ensure confidentiality. The computer files were password protected and the paperwork were kept in a locked cabinet.

## **Chapter 4: Results**

The following results section is presented in two separate yet complimentary sections. First the case description is presented which describes the network map and network analysis. This case description provides a contextual understanding of the themes and quotes that are presented in the second section (i.e., Thematic Analysis) which describes core themes within the internal and external factors and associated quotes that help to illuminate the results.

### **Case Description**

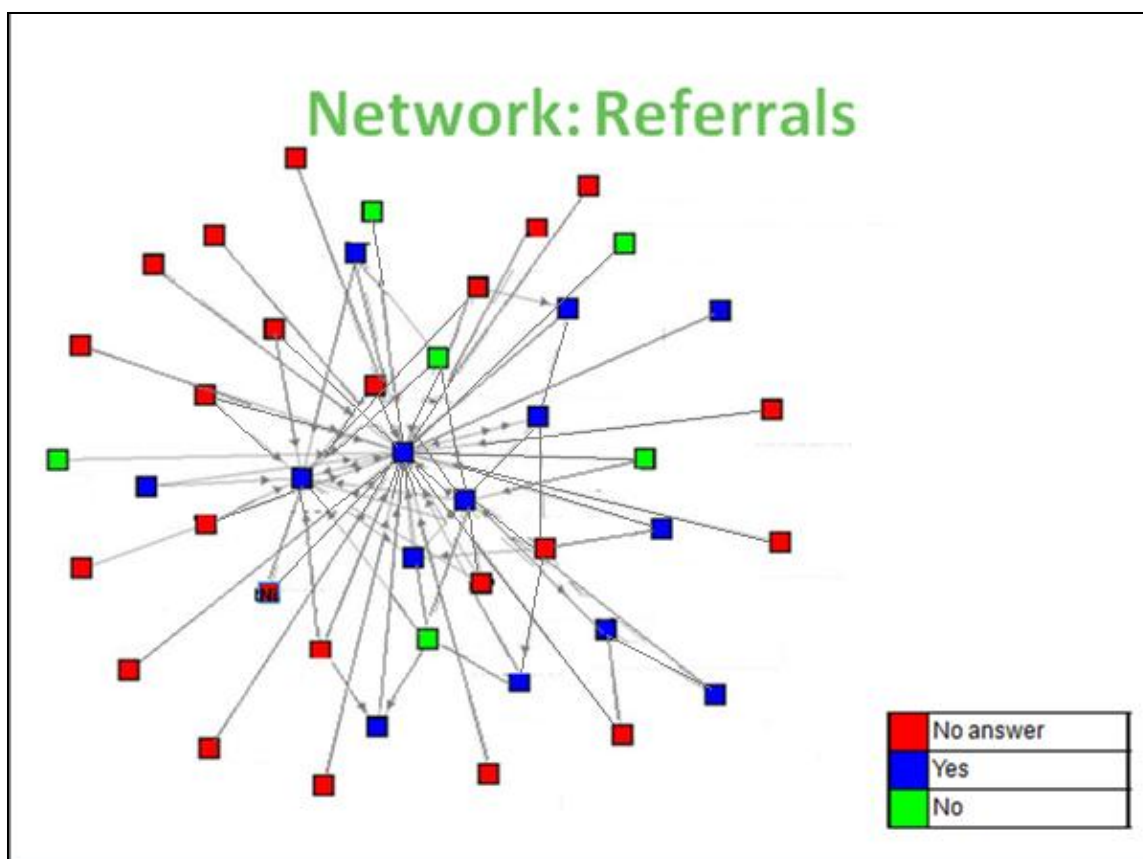
For this case, eleven primary and community care organizations were engaged with four from primary care and seven from community care. It is important to note that fifteen participants were interviewed for this study with the focus on the organizational level understanding of falls prevention referral pathways through the lens of health professionals working in those organizations. Primary care is defined as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community” (Starfield, Shi, & Macinko, 2005, p. 458). Community care is defined as care that includes “information, practical support (e.g., aids and adaptations), domestic assistance (to help with daily tasks), emotional support, physical/nursing care (to help with disability or illness), income maintenance, housing, transport and leisure and recreation” (Meredith, 1995 as cited in Victor, 1997, p. 9). Some organizations were considered community care however, provided primary care (i.e., occupational therapy) and public health services (i.e., exercise programs, mobility aids) therefore, it was important to

interview both types of professionals to understand different perspectives of how they approach falls prevention referral pathways. Therefore, fifteen participants were interviewed from eleven organizations as some organizations had various falls prevention programs and it was important to capture more than one health professional's views from those organizations. Community care organizations focus on falls prevention, whereas primary care organizations treat medical injuries caused by a fall and are viewed as the conduit to referring clients to services that help prevent falls in the future. These organizations were approached and asked to take part in the research based on their representation on the Health Nexus referral network map. Five organizations were on the periphery, three were central, and three were not represented on the network map. Organizations that were not represented on the network map but were determined by the research team to have a role within the falls prevention referral pathways were contacted to participate in the study. These organizations were those in primary care, mainly medical clinics and family health teams.

The community care organizations in this case focused on preventing the occurrence of falls among older adults which were programs focused on home assessments, mobility aids, foot care, medical care, continence care, physiotherapy services, occupational therapy services, and exercise programs. These programs were designed to target the multi-faceted aspect of falls from the individual to environmental level. In this region, there are 43 falls prevention programs although, the number of clients who are eligible and can register varies, depending on the amount of resources available, and the health professional's understanding and awareness of the programs. It is important to note that several falls prevention programs have their main office in St.

Catharines however, they also have offices throughout the twelve municipalities in the Niagara region which are in urban and rural areas. Therefore, the sample is viewed to be representative of the Niagara region.

The FPNN is a core network of primary and community care professionals who meet bi-monthly to discuss falls prevention best practices and how to move falls prevention forward in the community. This network was established eight years ago and was idle for two years as no chairperson led the group. In 2010, a health promotion professional volunteered to chair the network and it garnered interest from the LHIN and the surrounding community agencies. This strong interest resulted in approximately 20-25 primary and community care professionals meeting face-to-face bi-monthly to discuss new falls prevention programs and best practices. There are approximately 100 organizations on the FPNN mailing list and they receive updates on the FPNN meetings and falls prevention advances in the community. For this network, there appears to be a core group of individuals who are active at the meetings, whereas there are others who continue to request to receive update emails so that they are connected to network. At a strategic planning meeting in November 2010, the FPNN members identified client referrals in falls prevention programming and services as an important area to investigate. To this end, this study was developed to respond to members' questions of how they could improve the referral pathways in the Niagara region to enhance falls prevention.



*Figure 1.* Health Nexus referral network map on linkages across falls prevention programs.

The first step in their work was to create a referral network map to be able to visually represent their linkages across falls prevention programs, services, and primary care. Figure 1 is the referral network map produced by Health Nexus and shows the referral activity of those surveyed. This figure displays falls prevention organizations that stated they receive or give referrals (i.e., labelled blue), answered no to facilitating or giving referrals (i.e., labelled green), and did not answer the referral question (i.e., labelled red). The organizations that stated they receive or give referrals (i.e., labelled blue) are receiving or giving referrals from various organizations in the network. The organizations that answered no to facilitating or giving referrals (i.e., labelled green) are currently not receiving or giving referrals and those organizations are involved in falls

prevention in other capacities (i.e., research, policy) and not directly involved in falls prevention programming. The organizations that did not answer the referral question (i.e., labelled red) were organizations that were identified by other organizations in the network to have received or give referrals however, since those organizations did not respond to the survey, the reciprocal nature of those relationships were not confirmed. This map illustrates the organizations that are central in the referral network (i.e., in the centre of the referral map with many connections) and the ones on the periphery (i.e., on the outskirts of the map with few connections). Based on the referral map, it was important to select organizations that were central and peripheral to understand the facilitators and barriers of falls prevention referral pathways from central organizations (i.e., receiving and giving frequent referrals) and peripheral organizations (i.e., receiving or giving limited referrals). This understanding aided to uncover the internal and external factors that influenced the level of collaboration and integration of the falls prevention referral pathways.

In addition to selecting organizations on the referral map, it was essential to purposefully choose organizations (e.g., family health teams, medical clinics) that were not represented on the referral map but were considered to have an important role in the falls prevention referral pathways.

## Participants

Table 1 *Interview Participants by Health Profession*

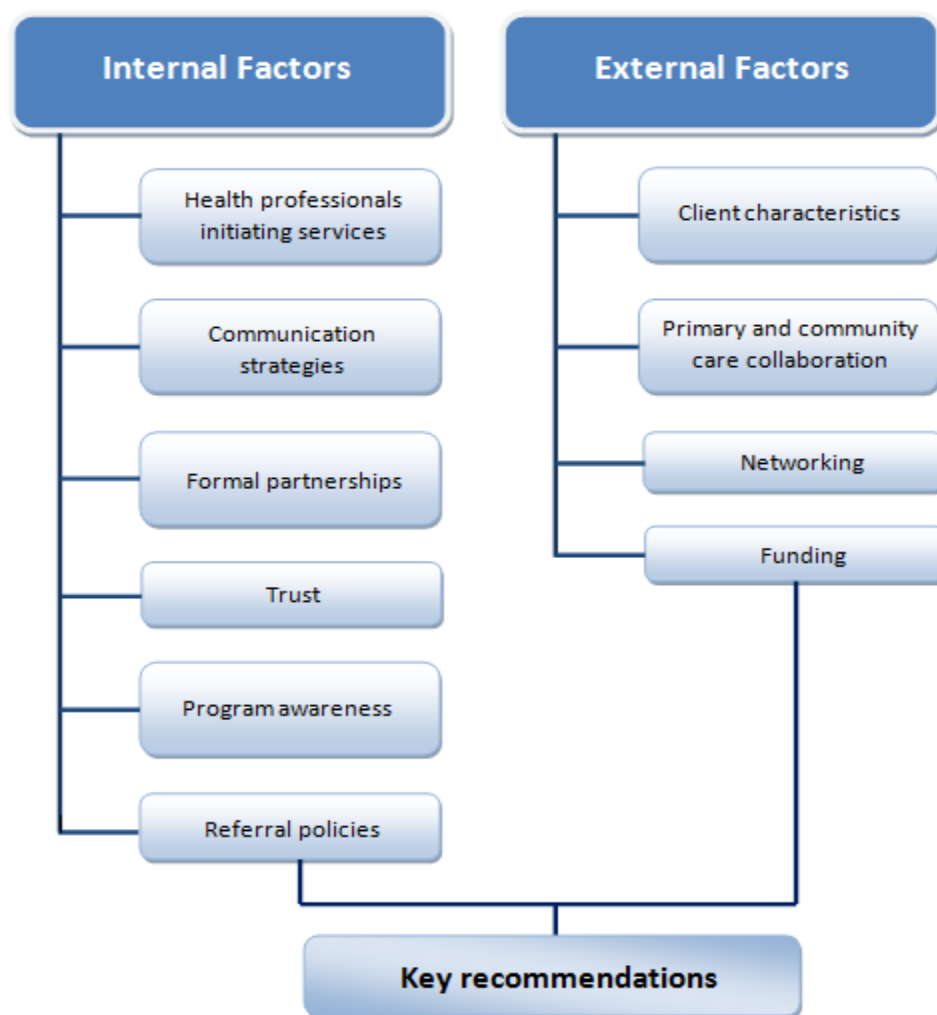
Health Profession	Organization	Primary Care	Community Care
Nursing Professional (Nurse, Nurse Practitioner)	Medical Clinic	2	0
Allied Health (PT, OT)	Rehabilitation Hospital Community Care Centre	2	0
Paramedicine	Community EMS	2	0
Physician	Medical Clinic	1	0
Program Coordinators (Exercise Program Coordinator, Supportive Housing Coordinator, Self Managed Care Attendant Service Facilitator, Wellness Resources Coordinator, Case Manager)	Community Care Centre	0	5
Program Managers	Community Care Centre	0	3
<b>Total</b>		7	8

Fifteen participants were interviewed in this study (N=12 females; N= 3 males) who were involved or associated with falls prevention programs and services. Their professions vary from primary to community care and included: nursing, allied health (i.e., physiotherapists, occupational therapists), paramedicine, physician, program coordinators, and program managers.

## Thematic Analysis

The themes that emerged from the qualitative interviews are classified into two main categories: internal and external as per the research questions. Ten key themes

emerged that highlighted the facilitators and barriers primary and community care professionals experienced when conducting falls prevention referrals and these main themes contributed to the key recommendations for the falls prevention referral pathways (refer to Figure 2).



*Figure 2.* Internal and external factors contributing to key recommendations of falls prevention referral pathways.

Below, each of these themes are described in detail and supported with one quote to provide an understanding of the theme. Appendix F contains additional quotes for



each theme that allows the reader to garner a more comprehensive understanding of the theme through the participants' responses.

### **Internal Factors**

Internal factors are the physical or social aspects that influence the falls prevention referral pathways within the organization (Duncan, 1972). These factors are internal to the organization and affect the decision-making process within the organization.

### **Theme 1: Health professionals initiating services**

Falls are a multi-factorial health issue. Therefore, programs ranging from exercise to home assessments are available and have been created to address these various factors (i.e., limited mobility, unsafe home environment, poor balance). Several primary and community care professionals who lead falls prevention programs within their organization noticed that clients may benefit from additional services that they are aware of in the community. Therefore, these health professionals will initiate referrals for clients to ensure they are receiving appropriate care. This action was only seen in a subset of the professionals who were aware of falls prevention programs and said that they would engage in this referral process. One program manager stated:

“Even though we (community care professionals) want to advocate for [the client] to be independent and make those phone calls themselves, we find that it's more effective when we offer to make that phone call. For example, we send a fax to the [falls prevention program] or [community care centre] on behalf of the client. That's the quickest method for us and it's also an assurance that the client's information has been sent. So when we're offering to make the call or connection for the client, the referred organization will call them and tell them a little bit more about how to set up that appointment.”

### **Sub-theme 1: Health professionals assess severity**

Many of the primary and community care professionals did conduct assessments of the severity of the client's health. Based on their observations and assessments, they would initiate referrals for clients they believe were in urgent need of falls prevention services. This severity indicator was seen as an important impetus to push for a more focused effort by health professionals to refer clients to services. Participants in this research did outline that if the individuals were not assessed as a "severe" or "urgent" case then the referral process was not seen as a high priority. One respondent shared this sentiment by stating:

"With the [client's] permission, sometimes I will actually call [the falls prevention organization] while a patient is sitting in [my office]. I'll make that referral directly from my office so it's done. It's done and it doesn't require the [client] to actually make the call at home. It will depend on how urgent I would consider it. If I think they're really at risk, I would ask them if I could have their permission to call directly from my desk and just say 'this person is asking for some therapy services in the home, can you put them on the list?' And then [the falls prevention organization's] intake people will give them a call once the [referral has been made]. So I don't always leave the onus to the [client], but I would in some instances. I would just say this is what you need, go home and make the call. But if I think there's an emergency, I'll ask [the client] if I can [make the referral] from [my office]."

### **Sub-theme 2: Falls prevention programs feedback**

It was indicated by several primary and community care professionals that after they made the referral for the client, they would like to receive follow up feedback from the referred organization. They outlined that they would like to know whether the client successfully completed the program and health benefits that resulted from falls prevention service. Furthermore, they indicated that they would like to obtain information from the client about their satisfaction with the program, which in turn would allow the professional to know whether or not they should continue to make referrals to

this organization. Organizational and client feedback reassures the practitioner that their client has received appropriate care. As outlined by a nurse:

“Thorough, comprehensive [where] you follow the [client] from the beginning of their mandate to the end. For example, if it's a home assessment, I would want the [health professional] to be doing the assessment and potentially making the arrangements with [the] client and ensuring that the bath bars got in, doing follow up, [checking] if the rugs are gone.”

## **Theme 2: Communication strategies**

Community care professionals reported that due to the number of years they have been working in the industry (10-40 years), they were able to form an informal network of professional relationships. These relationships reportedly enabled the community care professionals to become aware of falls prevention programs in the region and increase the number of services they have in their database. Furthermore, they reported that an open line of communication requires frequent communication (i.e., updating each other on the referral process through fax, e-mail, telephone between organizations involved in the referral process). One respondent reiterated this point by stating:

“I've been at this for 40 years so I've been working in this field for a while. I was a case manager with the [community care centre], I was the manager in the hospital for medical services. I do have a Bachelor's degree and a certificate in nursing management so I'm very resourceful and I'm aware of what resources are [available] and if I'm not, I always make sure that I try to keep abreast [of new resources]. For example, I was at a homelessness workshop last week and we introduced ourselves in the little group that we were in. As you introduce yourself, you say what you're doing and a little bit of what you do and you pick up on the stuff [so] you end up questioning the person and asking for her card and you explain what you do. There's a lot of informal aside from formal.”

### **Sub-theme 1: Open communication**

Community care professionals noted that open communication is required for successful referrals as organizations would be made aware of the entire referral process. This open line of communication (i.e., sharing client information, referral process,

updates of client progress with one another) was said to help foster the referral process and ensure that it is transparent and helped to decrease the likelihood of miscommunication. Furthermore, it was believed that open communication would result in a seamless referral process for health professionals and their clients. A program coordinator working for a community care agency stated:

“Communication is huge. It comes down to your daily interaction [such as] responding in a timely manner. If you have a request or a question, getting back to you in a timely manner with the answer. I think that's really key. Being followed up with and going above and beyond the normal call of duty. [For example] letting you that they (the falls prevention organization) received the referral that service is going through so you know that you've closed the loop.”

### **Theme 3: Formal partnerships**

Several health professionals stated that developing formal partnerships in the community improved their relationships with community organizations. These formal partnerships were characterized as an agreement between falls prevention agencies to refer their clients to the services within the partnerships. These partnerships were said to allow them to become more aware of the falls prevention services available. Therefore, these partnerships will benefit the clients as primary and community care professionals can refer them to a variety of falls prevention services available in the region. One program coordinator emphasized the value of building relationships that leads to formal partnerships in the following statement:

“I think building relationships is huge. So it's just trying to keep open communication consistently and always inform each other of changes that are going on and what's happening and how to work together. Because a lot of times changing policies and things, so it's having the flexibility and being able to work together towards achieving a common goal. So relationship building is a huge piece.”

**Sub-theme 1: Individual relationships**

Many of the primary and community care professionals reported that establishing relationships with key individuals of community organizations leads to strong partnerships. These key individuals represent their community organizations in committee meetings (i.e., local network meetings, local committee meetings) and are resourceful during the falls prevention referral process. Engaging with these key individuals allow primary and community care professionals to gain a better understanding of the falls prevention services offered by these community organizations.

One program manager stated:

“On a personal level, we build relationships because of connections. There's been some good, peer commodore with some of the other individuals that offer the similar programs, so we've been able to keep up through [our relationship].”

**Sub-theme 2: Face-to-face meetings**

Primary and community care professionals stated face-to-face meetings as the most effective means of communication when establishing formal partnerships in the community. Face-to-face interaction allows primary and community care professionals to establish rapport and describe their programs and services in detail with one another. This form of communication allows for program information to be exchanged among practitioners and referrals to be made on behalf of the clients as stated by one respondent:

“I'm not great with the e-mail, I prefer something more concrete. So communicating face-to-face at these conferences or expos where you're meeting somebody at a table who's giving you information about their organization and [you] get a chance to talk with them and ask questions and take something away. For me that's a little bit more useful than getting an e-mail or any of the other ways that are out there.”

#### **Theme 4: Trust**

Many primary and community care professionals indicated trust as a key component when they are referring their clients to falls prevention programs. Trust was described by these participants as having certainty and comfort that organizations will provide high quality falls prevention services to their referred clients and will meet the health needs of the clients. The more trust that practitioners had with the falls prevention organization, the more likely they were to refer their clients to that program. A program manager highlighted this point in the following statement:

“I just want to have a good relationship of trust and understanding of confidentiality and we’re all there for the client.”

A program coordinator further supports this point by emphasizing the importance of trusting the falls prevention organization to provide quality service to the client and to provide that service in a timely manner by stating:

“Referring my client to [an organization I trust] and knowing that my client will be taken care of and I don’t have to worry about whether or not they’re going to be on the wait list too long or they’re going to [receive poor service].”

#### **Sub-theme 1: Familial perspective**

Some participants reported that they associate their ability to trust community programs by using a familial perspective. This means that the practitioner would consider the idea of “would I send my mother to this program?” and if they thought they would, then they felt that it was good enough to send their clients to it as well. This illustrates the high standard that primary and community care professionals use to refer services to their clients. One respondent shared this same sentiment by stating:

“If I won't send my mother somewhere, I'm not going to send anybody else. I don't know how else to put it.”

## **Sub-theme 2: Reputation of programs**

Many community care professionals believe that the trust they have in the community programs to deliver quality services is associated with how reputable the program is within the community. Participants describe reputable programs as having a track record of providing quality falls prevention programs based on client feedback and is well known among the community care professionals as providing consistent and excellent care. A main component to establishing trust with organizations that offer falls prevention programs is reputation of those programs in the community. Programs with good reputation were viewed by the participants as a trusted program and thus refer clients to them. A program manager said:

“We know that particular programs have availability and [clients are] fully supported from start to finish so it's a reputable place to refer individuals to because they're going to receive the same type of service and support that we would provide.”

## **Theme 5: Program awareness**

Several primary and community care participants indicated that awareness of falls prevention programs is essential to garnering referrals for community programs, especially newly established programs. Newly established programs are not known in the community therefore, marketing strategies to increase awareness of those programs would most likely lead to increased referrals. These professionals associate increased awareness of falls prevention programs with more selection of services for their clients. These practitioners stated that if they were more aware of the numerous falls prevention services available, they would have a wider selection of services to facilitate referrals on behalf of their clients. A program manager shared the struggle of increasing awareness of her program in the community by stating:

“Again it's being a new program in some areas [and] getting the word out. There's been some areas where I'd really like to see referrals come from, but I haven't been able to get to who I need to get to.”

### **Theme 6: Referral policies**

Several study participants reported that their organizations do not have formal falls prevention referral policies however, they have informal practices that their health professionals follow. This finding was supported by document analysis as it was found through reviewing falls prevention websites and conducting individual interviews that organizations involved in this study did not have formal referral policies regarding falls prevention at the present time. A program coordinator from a community care agency stated this point in the following quote:

“No, not really. Not presently. Not for our specific piece but I mean, I work for the [local] region in the [seniors program] and they do have a referral, all their referrals go through intake. They do have an [informal practice] surrounding that. So some of ours go through intake but some people call us directly.”

### **Sub-theme 1: Informal referral practices**

These informal policies (i.e., some organizations have specific referral forms, how to process their referrals, how the referrals will be followed up) were established by each organization. Therefore, there was no consistency across organizations which makes the referral process cumbersome. Practitioners indicated that it was difficult to become well-versed in every organization's informal practice as that required extensive time commitment and prolonged the referral facilitation process. One respondent shared her experience with navigating a program's referral practice by stating:

“Because each agency has their own system of what they'd like to use for referrals and so for the [community care centre], it's usually a written referral. I can also [make] a phone referral but what usually happens because of the way the [community care centre] likes to do it, I will also let the client know what is going on, what is going to be expected of them because the [community care centre] will call them and go through a 20 minute referral process and so what I usually



do is sort of facilitate the process for them. I've been on site during an intake [and] I'll come back to the office and make the phone call and give [the community care centre] the background to the intake person and then they follow up with a phone call.”

### **External Factors**

External factors are physical or social aspects beyond the confines of the falls prevention agency which impact the referral pathways (Duncan, 1972). These factors are external to the organizations and influence how falls prevention referral pathways function from beyond the boundaries of the organizations.

### **Theme 1: Client characteristics**

Study participants reported how eligibility criteria for falls prevention programs and services influence the kind of services clients would receive. Every falls prevention program has an eligibility criteria therefore, clients must meet those criteria in order to be referred to those programs. Logically, participants reported that eligibility criteria allowed them to refer their clients to appropriate falls prevention services that meets their client's needs. However, the fact that there was a great variance in the eligibility criteria then added an additional layer of complexity to the referring process. One respondent said:

“There is an eligibility criteria. [It is] not set in stone and the individuals don't have to have all the characteristics in order to be eligible. Based on that, we are encouraging individuals who would be making the referrals to advertise [the] program to clients they perceive to be eligible in the first place. Because we wouldn't want to be offering the program to individuals who are not suited for [the] program and [they would] not be able to get excited about it when it wouldn't suit them.”

### **Sub-theme 1: Transportation issues impact participation rates**

Primary and community care professionals stated that older adults experience transportation issues when accessing falls prevention programs and services. These

clients would like to participate in falls prevention programs and services however, many do not have access to adequate transportation to partake in these services. A program manager mentioned that clients residing in rural areas are less likely to participate in falls prevention programs in the local city as they do not have appropriate transportation to access these services. Thus, participants reported that transportation is a barrier for clients to access falls prevention services which are essential to meeting their health needs. Lack of transportation services to falls prevention programs for clients could result in lower participation rates which may lead to elimination of programs due to low uptake. A program manager said:

“When people call our program, we ask if they need help with transportation and our admin support will help facilitate that. They'll fax a referral to whatever transportation provider in their neighbourhood. We kept hearing that was a barrier because we only have so many locations, and then some people wouldn't be able to access them so we now ask [during the intake interview] about that.”

## **Theme 2: Primary and community care collaboration**

Community and primary care professionals reported that there is a lack of collaboration between primary and community care organizations regarding falls prevention services which results in fewer referrals initiated. Collaboration was defined by the participants as primary and community care meeting to discuss falls prevention programming and developing a process where both sectors are aware of the falls prevention referral process. Participants mentioned that collaboration between primary and community care organizations would benefit clients as they would be referred to appropriate falls prevention programs that meet their health needs. Furthermore, participants stated that collaboration would encourage open communication among practitioners and leads to a seamless referral process. A nursing professional shared this sentiment in the following statement:

“Ultimately [primary and community care collaboration] is not going to happen, unless primary care is part of that circle. The community, public health sector does a lot of great [work] but when we (primary care) don't utilize them, it's a small pocket that they serve.”

### **Sub-theme 1: Physician's control of client's care**

Some participants reported that physicians were territorial which affects the level of involvement from community care organizations in the client's care. A program manager shared her experience balancing the needs of her clients with the physician's territorial nature over the client's care. For example, she mentioned that some physicians do not want her to make referrals to a falls prevention program because that would indicate an oversight on their end. The physician's tendency to assert control over a client's care prevents collaboration with community care professionals. The power struggle between primary and community care exacerbate the issue of collaboration between the two sectors which was highlighted in the following statement by a program manager:

“Definitely it's this worry about the relationships with the physicians. This was a cultural thing we found in [various municipalities]. There's this feeling of the family doctor being in control of the client's care. So even when clients would self-refer themselves to us, there [were] a few occasions where the physician was unhappy about [it] and said ‘you need to choose me or the [community program],’ which was bizarre.”

### **Sub-theme 2: Primary care professionals and resource constraints**

Primary care professionals reported that funding and time constraints limits their ability to facilitate falls prevention referrals on behalf of their clients. A physician described the unrealistic expectation of becoming involved in falls prevention services as physicians are funded to provide medical care. There is currently no mandate or incentive for physicians to become involved in falls prevention referrals therefore, limited

falls prevention referrals are made by physicians. In addition, they have limited time to focus on preventative care which limits the number of falls prevention referrals they initiate. A primary care physician stated:

“So then it’s due to your own kind of way, you like to practice on what you do. Basically there’s no specific funding for family doctors to invest in certain areas. You don’t get paid really to do counselling or psychotherapy, which there’s a massive need. You don’t get paid really to do home visits unless it’s for end of life issues. And there’s really no funding for comprehensive geriatric assessments which are quite complicated and take time.”

### **Theme 3: Networking**

Primary and community care professionals reported that networking on community committees allowed them to better serve their clients as they are able to expand their list of available falls prevention services and facilitate referrals by learning about new falls prevention programs, becoming aware of topics that impact falls, hear about the successes of falls prevention initiatives, and becoming involved in discussions to improve falls prevention locally. A program coordinator shared the importance of committee involvement by stating:

“We take part in a lot of different committees. We do a lot of networking, we attend a lot of information fairs. We did a big marketing program when we first started the program itself and we’re constantly out there promoting ourselves. We do a lot of networking [and] I used to attend a lot of committees. I used to sit on a lot of committees. When the team expanded, some of those people took on different committees and we could share the wealth. We network with a lot of agencies.”

#### **Sub-theme 1: Prioritizing committee meetings**

Several participants shared their support of community committees as it allowed them to network with various practitioners in the falls prevention field. They stated that committee meetings allowed them to learn about best practices in falls prevention, become involved in developing strategies for falls prevention practices and to meet with

falls prevention coordinators face-to-face. Participants value the benefits of attending committee meetings therefore, many would prioritize these meetings in their schedule.

One respondent said:

“[Network committees are] important [so we can] have a good understanding of what people are up to and sometimes the round table updates are very helpful. For example, [a program manager] who presented on her [local community program] [allowed us] to have a better understanding of what people are up to. Through these kinds of meetings, I sometimes think, I could be out visiting a client [but] at the same time, you have to have good information for your client and it means participating in some of these things that take you away from the client. In the end, I think it's better because you have more information to share with the team and with your client.”

#### **Theme 4: Funding**

Several community care professionals indicated that the funding environment of falls prevention programs can impede the referral process as some programs ended and clients could no longer be referred to them. They reported that this funding environment made it difficult for them to serve their clientele as they were uncertain of which programs they can rely on to facilitate referrals without the fear that those programs would be phased out in the future. Therefore, program funding uncertainty made community care professionals frustrated with the referral process when funding sustainability is unknown. A program coordinator stated:

“I mean the [community program], they were kind of the travelling falls assessment team so they have a nurse and a physiotherapist. When they lost their funding, that really kind of messed me up because they were like my go to for people that were really quite frail, like medically unstable that were having falls. Because they sorted through a bunch of different issues so that was a funding aspect that really affected [my work] and the other piece of that was that they had a transportation line and they would pay for the transportation for our clients to attend our clinics because they had a big transportation envelope so other programs could tap into it. So that was a real bummer so we still connect people to transportation but now everybody has to pay something whereas we could have that covered before.”

### **Sub-theme 1: Private services**

Some primary care professionals reported that limited funding to publicly funded falls prevention programs lead to long wait lists therefore, they would refer their clients to private clinics to receive necessary care. They noted that they would prefer to refer their clients to publicly funded programs however, some clients require a particular service urgently and publicly funded programs with wait lists cannot accommodate those needs in a timely manner. Furthermore, this clientele group are on fixed income therefore, many have financial difficulties paying for private services. The inclusion of private clinics to the network could impact on the cohesion between public and private services. One respondent said:

“A lot of my clients, a lot of my seniors around here either don't have the funds to access some of the equipment that they may need to prevent a fall. I'm aware of some governmental agencies to look into but sometimes the clients don't even qualify for that because of course these programs have an eligibility criteria. A lot of what I do in my job is making recommendations for equipment and assistive devices but then it's not as easy as the person just going out and buying it. A lot of the times, they just don't have the funds and it's looking at what kind of programs are out there to help the person attain or get what they need. So I spend a lot of my time writing letters to advocate for somebody or to recommend this equipment based on this need so it's a big issue.”

### **Sub-theme 2: Funding and wait lists**

Community and primary care professionals indicated that the current funding structure for falls prevention programs prolonged the referral process due to lengthy wait lists. Several participants outlined that some central programs on the network map have long wait lists which affects the timeliness of client care. Some clients were unable to wait months or years for services and may experience a fall or a decline in their overall health. The timeliness issue of accessing falls prevention programs may deter agencies from facilitating referrals to these programs which prevents collaboration and integration

of services. Furthermore, some health professionals may be informed of the long wait lists through their informal professional relationships with program coordinators and do not refer their clients to them. A program coordinator stated:

“At this particular time, we've had staff changes and staff leaving so we're a little bit short staffed so that's impacting on some of the referrals because the staff isn't there to do the job. But all I've done is I've created wait lists and as soon as people come in to fill the job, then they'll get the referral.”

The present study resulted in ten key themes which included internal and external factors. These themes illustrated the facilitators and barriers of falls prevention referral pathways and when taken into consideration, contributed to the development of key recommendations that participants suggested to improve this pathway. The following section highlights four key recommendations to improve the falls prevention referral pathways.

### **Recommendation 1: Electronic database**

Many primary and community care professionals reported that a more integrated and streamlined approach would improve referral pathways as it would lead to a better navigation system. Participants mentioned making the referral process simple and easy would minimize frustration and facilitate more referrals to falls prevention programs. A common suggestion among participants to achieve integration of services was to establish an electronic database listing all the falls prevention programs offered locally. This database would serve as a basis for practitioners to gather information related to falls prevention programming and increase their awareness of programs offered. Several participants noted a benefit to an electronic database is that all practitioners would be able to easily access program information and minimize the time required to search for this type of information. One respondent said:

“A good strategy for referrals would probably be a database where [practitioners] can be actively engaged. I appreciate meetings, meetings are good and committees are good, but being able to log on to a computerized or centralized resource and understand what's going on in [falls prevention] and use that information to help your clients navigate the system would be helpful.”

### **Recommendation 2: Electronic referral forms**

Primary and community care professionals outlined that electronic referral forms would be more convenient as they would be sent electronically which expedite the referral process. Some participants mentioned that the current paper referral was time consuming as it required more time to process them compared to electronic referral forms. Furthermore, some primary care professionals have electronic referral forms in their database and the inclusion of falls prevention referral forms would be convenient as they are able to make referrals during the client's medical appointment. An allied health professional stated:

“Other things that make the process better are simplified [such as] not having to fill out reams and reams of paperwork. Electronic is the way to go. If somehow there could be electronic referral processes. They are much easier to complete and process. It's easier to organize electronic referrals than paper and the forms can be filled electronically. I'm all for that.”

### **Recommendation 3: Educating office managers and staff**

Primary care professionals indicated that educating office managers and support staff is essential to improving falls prevention referral pathways as these individuals are in direct contact with them and could update them on falls prevention programs and services in the region. Furthermore, these individuals would be knowledgeable in the falls prevention programs offered and could brief physicians on the programs. A physician shared this sentiment by stating:

“Another way which is...I would probably say have the most bang for your buck is actually not to educate physicians at all. I would say educate the office



managers. So our office manager here looks after 9 physicians and she's super experienced and she knows every program that's available. Usually we go to her with our problem and she...the office manager is probably the most under-utilized kind of point of influence. They have the biggest influence on physicians on a daily basis probably.”

#### **Recommendation 4: Education days**

Some primary care professionals state that a potential strategy to promote falls prevention programs to physicians is to present at their local organization’s education days. Physicians in this region have a membership to a local medical organization that organizes education days for physicians to attend to learn more about medical practices in the region. Primary care professionals noted that this gathering is known to disseminate information to physicians therefore, is considered a good avenue to promote falls prevention programs. A nursing professional stated:

“The other thing would be to possibly try to link in other times when they're together. So for example, a local organization that physician have membership for one year has an annual education day and I think it's fairly well attended. The hospital has their grand rounds [that day so] if there was a way to have just 5 minutes at the beginning of that or a display [to promote falls prevention programs] when they're already there.”

#### **Summary of Major Findings**

The purpose of this study was to understand the referral linkages that exist among falls prevention agencies using network analysis theory. The two research questions that guided this study were: (1) What internal factors influence the level of collaboration and integration in the network of falls prevention agencies? (2) What external factors influence the level of collaboration and integration in this case?

The major findings illustrate that falls prevention referral pathways have influences at the individual to ministry level. The first level involves the client and the client characteristics such as eligibility criteria of falls prevention programs affect

whether or not they receive a particular service. The second level affects health professionals in terms of facilitating client referrals, what communication strategies they use to process referrals, the level of trust they have with falls prevention programs, and their level of awareness of the falls prevention programs available in the region. The third level is organizational where primary and community care agencies are involved in formal partnership development, implementing referral practices, improving collaboration between primary and community care sectors, and attending local falls prevention committees to network with other organizations. The fourth level is the ministry where the uncertain funding environment impacts which central and peripheral falls prevention programs receive funding to sustain their programs and services. Overall, falls prevention referral pathways affect a multitude of internal and external factors at the ministry, organizational, and health professional level which illustrates the importance of improving the referral pathways to better meet the needs of the client, who utilize falls prevention programs and services. To this end, internal and external factors were investigated in this study to gain a better understanding of how falls prevention referrals pathways are currently processed and key recommendations suggested by participants to improve them.

Internal factors are considered physical or social aspects that are within the organization's control (Duncan, 1972). The internal factors that emerged from the present study were: (1) health professionals initiating services, (2) informal communication strategies, (3) formal partnerships, (4) trust, (5) program awareness, and (6) referral policies. These factors are internal to the organization and the practitioners within these organizations can control which services they can refer their clients to, what

communication methods to use when communicating with other practitioners, which organizations to initiate formal partnership agreements with, which organizations to trust when facilitating referrals, what methods to use to gain greater awareness of falls prevention programs, and to adhere to the informal referral policies within their organization. A core aspect of internal factors is that the practitioners within the organization have control of how they will respond to the falls prevention referral pathways.

External factors are considered physical or social aspects that are beyond the boundaries of the organization's control (Duncan, 1972). The external factors that emerged from the present study were: (1) client characteristics, (2) primary and community care collaboration, (3) networking on committees, and (4) program funding. These factors are aspects that are outside of the practitioner's control however, they influence the falls prevention referral pathways. The client characteristics are eligibility criteria of falls prevention programs and affect which services practitioners can refer their clients to. The lack of collaboration of primary and community care organizations affect the equality of care among clients as some clients may not receive falls prevention programs due to their practitioner's limited awareness of those programs. The networking opportunities in the community allow primary and community care professionals to connect with one another and share information on falls prevention programming which in turn may facilitate more referrals. The unknown provincial funding process which could at any time eliminate key falls prevention services in the region and directly affect continuity of client's care is also a factor influencing referrals as it is not always clear who is still running specific programs or if they still exist. The

recommendations such as electronic database, electronic referral forms, educating office managers and staff, and education days are required to enhance the collaboration, trust, and reputation of these programs and services and to enhance the success of the referral pathways.

Internal and external factors emerging from this present study are not mutually exclusive instead, they are inter-related and influence one another. Internal and external factors are inter-related as the external factors impact how the practitioners respond to the internal processes of falls prevention referrals. Client characteristics (external factor) determine the eligibility criteria of falls prevention programs in the region and practitioners within the organization would initiate referrals (internal factor) based on which programs their clients are eligible for and meet their needs. The lack of communication and collaboration between primary and community care organizations (external factor) influences the number of formal partnerships that establish between these two sectors (internal factor) as fewer partnerships would be established due to lack of collaboration. The networking opportunities in the region (external factor) allow practitioners to connect and become aware of various programs that may lead to facilitating referrals (internal factor) however not everyone engages in these activities that would allow them to benefit and enhance their referring practices. The uncertain funding environment of falls prevention programs (external factor) which could eliminate certain falls prevention programs in turn decreases the number of available programs health professionals can refer their clients to (internal factor) and appears to influence dimensions of trust and reputation of the programs and services. The recommendations (i.e., electronic database, electronic referral forms, educating office managers and staff,

education days) require the collaboration between primary and community care professionals to execute them.

## Chapter 5: Discussion

This study has highlighted the complexity of internal and external factors which influence referral pathways for individuals requiring falls prevention programs and services. There are many structural considerations such as policies, funding, and committee engagement which have been perceived as influencing referrals and that are coupled with the more nuanced aspects of trust, informal communications, reputation, and awareness that influence this process. It is clear that the results of the current study support other research in the area of network theory in relation to informal communication strategies (Barnes et al., 2010; Provan et al., 2005; Nicaise et al., 2012; Fredericks, 2005; Palinkas et al., 2011; Gregson et al., 2011, Yousefi-Nooraie et al., 2012; Cott, 1997; Kwait et al., 2001; Krauss et al., 2004; Sibbald, Wathen, Kothari, & Day, 2013), formal partnerships (Cousens & Slack, 1996), program funding (Cousens & Slack, 1996), trustworthiness (Human & Provan, 2000; DiMaggio & Powell, 1983), and collaboration (Barley et al., 1992; Cunningham et al., 2012). As well, there are new points of interest in the current study which lend to the scientific knowledge base about the referral pathway through a network theory lens which include health professionals initiating services for their clients (Lockhart, 2006), importance of open communication for seamless referrals (Lockhart, 2006), no standardized approach to providing program feedback (Lockhart, 2006), strong reputation of programs (Provan et al., 2009), and uncertain funding environment (Cross et al., 2009; Grace et al., 2006). In addition to these findings, important recommendations have come forth which will aid to further the development of referrals in the future.

Primary and community care professionals would initiate referrals for their clients based on programs that they trust and are aware of in the region. The majority of these practitioners are aware of the falls prevention programs based on their informal communication with other health professionals in their field. These established professional homophilic relationships allow them to feel more comfortable referring their clients to programs that they have a strong professional relationship than compared to new unfamiliar programs (Yousefi-Nooraie et al., 2012; Cott, 1997). It is interesting to note that health professionals preferred to gather program information from those in their own sector (i.e., physiotherapists communicating with one another, exercise program coordinators communicating with one another) rather than others (i.e., physiotherapists communicating with physicians, nurses, paramedics) as they have formed informal professional relationships with those in their own sectors. However, they were open and willing to establish heterogenic ties during local committee meetings where an inter-disciplinary group of professionals meet to discuss falls prevention services. The opportunity to build inter-disciplinary connections at these committee meetings allow practitioners to foster new relationships that they otherwise would not seek on their own. Professional homophilic relationships allow health professionals to share information with those in their own sector (Yousefi-Nooraie et al., 2012; Cott, 1997) however, local committee meetings encourage inter-disciplinary collaboration which in turn increases the number of programs clients can be referred to.

Similar to the research by Lockhart (2006) focused on referring individuals based on health severity, the present study also found that health professionals facilitated additional referrals for clients who were in urgent need of specific falls prevention

services. When a health professional is providing one type of falls prevention service to their clients (e.g., weight bearing in exercise programs), there may be other services (e.g., mobility aids, home assessments, foot care) that the clients are not receiving but that these health professionals view as essential to the client's well-being. If the client was in a more "high risk" situation, the referrals were initiated more quickly. These findings illustrate the importance of health professionals facilitating supplementary referrals for clients they strongly believe require a particular service based on their health risk assessment. However, this also identifies a gap in fall "prevention" in general. It was outlined that health professionals refer more when an individual is at high risk which is definitely needed, however from a more preventive standpoint it is important to be proactive and ensure that individuals receive the right care so they do not progress to the state of high risk. Furthermore, health professionals may resort to recommending private services to their clients if there are lengthy wait lists for falls prevention programs and they deem their clients as "urgent." The health professional's decision to refer their clients to private services is based on their judgment of client's affluence. Therefore, the initiation of referrals is an important topic to be discussed in relation to the criteria that focuses on prevention when services can have a more effective impact on minimizing individuals in the high risk category, thus preventing falls before they happen (Rubenstein, 2006).

Informal communication among primary and community care professionals during the referral process was found to increase collaboration and integration among these falls prevention organizations. Information sharing among health professionals related to falls prevention programs and the referral facilitation process was found to



increase collaboration among these agencies. This finding is consistent with Barnes et al. (2010) and Provan et al. (2005) findings in their studies which found that information sharing was important to strong linkages and improved communication among health organizations. Furthermore, a recent study published in April 2013 by Sibbald et al. (2013) further corroborates this finding as they found that information sharing of clinical research knowledge in primary health care teams was a complex process and improved formalized modes of communication would lead to more information exchange which would most likely to lead to strong linkages among health organizations. The established personal working relationship among falls prevention coordinators lead to more timely referrals as these coordinators were in frequent contact to process the referrals, which aligns to the findings of Kwait et al. (2001) who found that personal relationships among program coordinators was imperative to facilitating referrals in a timely manner. Similar to the research by Krauss et al. (2004) where central organizations had more control and better communication strategies during the referral process, the present study found that central falls prevention organizations fostered an open communication strategy to ensure referrals were processed successfully. Furthermore, increased collaboration among falls prevention agencies was felt to improve the referral process as more programs would be integrated which is consistent with work on the importance of collaboration between health agencies to integrate services (Palinkas et al., 2011; Gregson et al., 2011; Fredericks, 2005). Previous literature has outlined the need for a designated organization to facilitate the referrals and disseminate program information to promote integration of services (Nicaise et al., 2012). The present study's findings mirror this recommendation through the importance placed on information sharing, collaboration, and integration of

services in relation to falls prevention referrals. Having a centralized mechanism to enhance referrals would allow for a more streamlined process and enhance client referrals.

The established formal partnerships among falls prevention agencies facilitate frequent referrals as they have a strong working relationship. Many of these partnerships developed over several years therefore, these organizations are central within the falls prevention referral network. Their ability to dominate the network is due to their increased power and resources to successfully facilitate falls prevention referrals. This finding aligns to work by Cousens and Slack (1996) in relation to strong partnerships established over the years among professional sport leagues and corporate sponsors that become central members in the network. These strong partnerships are also supported by sustained funding from the provincial government to continue their falls prevention programming. Therefore, continued funding aid in the development and sustainment of strong partnerships among these central falls prevention programs which also leads to these organizations becoming widely recognized and referred to. However, the negative implication is that new programs on the periphery of the network may have a lower chance of obtaining funding as central programs will most likely receive continued funding due to evidence of their sustainment.

Falls prevention programs that have a reputation for timely referrals and providing quality services have developed credibility in the community which has also been reflected in the research area of legitimacy where legitimate businesses were found to be credible and attracted consumers (Human & Provan, 2000; DiMaggio & Powell, 1983). Certain programs that participants viewed as central within the falls prevention

network were seen to have acquired trust with many primary and community care professionals. They felt confident in the quality of service provided when their client engages in and completes these programs. Therefore, these central programs will continue to garner referrals as they have established a good reputation in the community.

Primary and community care collaboration has been noted as an area that requires attention as there is presently a lack of collaboration between these two sectors which is not unique to just falls prevention but is a pervasive issue in health care in general (Halverson, Mays, & Kaluzny, 2000). Collaboration between these two sectors is necessary to improve the referral pathways for clients. A client who has experienced a fall would most likely visit the primary care practitioners and a lack of awareness of falls prevention programs would decrease the likelihood that this client would receive falls prevention care. Therefore, collaboration between primary and community care organizations would facilitate more referrals for clients in the primary and public health sectors which reflected findings of Barley et al. (1992) where collaboration between large and small biotechnology firms promoted innovation and enhanced business practices. Furthermore, primary and community care collaboration is likely to improve client's quality of care (Cunningham et al., 2012).

The lack of open communication among falls prevention organizations during the referral process was determined to impact their ability to get the clients the right services in a timely manner. This is reflected in Lockhart's (2006) study where physicians and mental health workers did not work collaboratively and client information was not communicated which was seen to lead to fewer referrals. Furthermore, Lockhart (2006) outlined that there was no standardized approach to providing feedback and follow up of

services which was felt to negatively influence this referral pathway. This is consistent with the current study in that the findings suggest that client feedback and follow up on the satisfaction of the services and program together with process measures of wait times and clinical outcomes would in turn allow those “referring” health providers to continue to refer other clients in the future. This loop back of program information would result in a reinforcement function that would lend to enhance the referral pathway (refer to Figure 3). The health professionals providing the programs would also be able to identify and understand the strategies that are effective and ineffective and make adjustments accordingly to improve services. Open communication among the referring out and referral receiving organizations will promote a seamless referral pathway and continual quality improvements (Langley, Nolan, Nolan, Norman, & Provost, 1996).

It is important to note that Figure 3 on client feedback loop and referral pathway illustrates an ideal situation where primary and community care professionals facilitate referrals for their clients, the clients then receives the falls prevention service, and then the client would ideally provide feedback on their experience with that service. Feedback would then be provided back to the client’s primary and community care professionals who made the initial referral which would then allow those practitioners to decide whether or not they will continue to refer their clients to those services in the future. Positive client feedback will most likely lead to additional referrals for falls prevention services. However, based on the findings of this study, there are factors that impact the junctures of this client feedback model.

The first juncture between primary and community care professionals facilitating referrals and the clients receiving those referrals are impacted by six factors. These six

factors are: 1) awareness of programs, 2) trust, 3) reputation of programs, 4) eligibility criteria of programs, 5) communication strategies, and 6) transportation issues. Primary and community care professionals who are not aware of the various falls prevention programs and services in the region will not be able to refer their clients to falls prevention programs therefore, their clients will not receive those services. Health professionals who do not trust that a particular falls prevention program will provide quality service to their clients will be less likely to refer their clients to that program. If the falls prevention program does not have a good reputation in the community, health professionals are less likely to refer their client to that program. Based on each program's eligibility criteria, some clients may not qualify for certain programs therefore, health professionals are unable to refer them to those programs. If health professionals are experiencing difficulty in facilitating the referral based on lack of open communication, they are less likely to successfully complete the referral process. Clients who do not have access to transportation to successfully complete the falls prevention program will not be able to receive the service and provide feedback on their experiences. These six factors impacting the first juncture between the health professional facilitating referrals and the client receiving the referral illustrates that this model is complex.

The second juncture between the client receiving falls prevention services and the client providing feedback on their experiences is influenced by one factor, which is the client feedback collection method. Currently, falls prevention programs in the network do not have a formal process of collecting, analyzing, and disseminating client feedback. No formal client feedback collection method is a detriment to these falls prevention organizations as they are unable to continually improve their programs and services.

The third juncture between client providing feedback on their experiences and primary and community care professionals referring based on client feedback is impacted by one factor, which is the lack of a referral policy to utilize client feedback. Falls prevention agencies do not have formal referral policies therefore, there is no emphasis on collecting and utilizing client feedback. The lack of a formal process to collect and utilize client feedback would most likely result in fewer falls prevention organizations recognizing the importance of client feedback and no program quality improvement process will be implemented.

The fourth juncture between health professionals referring based on client feedback and health professionals facilitating additional referrals is affected by four factors: 1) primary and community care collaboration, 2) funding environment, 3) networking, and 4) program wait lists. The lack of primary and community care collaboration impacts on which programs and services health professionals can continue to refer their clients to as there is no formal partnership developed between those two sectors. The uncertain funding environment could eliminate programs therefore, health professionals cannot refer future clients to those programs. The lack of networking among health professionals would result in fewer referrals as they will not be aware of various falls prevention programs in which they can refer their clients to. Falls prevention programs with long wait lists will deter health professionals from continuously referring clients to those programs as they would like for their clients to receive timely services. These four factors influence the number of referrals facilitated to programs that received positive client feedback and ultimately affects the main point of interest, the client receiving the falls prevention services.

Overall, the client feedback loop and referral pathway model has various factors at each juncture that impedes the flow of the referral pathway. It is imperative to acknowledge and understand the factors that can influence the referral pathway for improvements to be made to minimize the effects of these factors.



Figure 3. Client feedback and referral pathway loop.

Not only is the communications and feedback necessary to ensure a coordinated referral pathway, but also much of the evidence in this study draws attention to the importance of trustworthiness before the initiation of this communication.

Trustworthiness was a key component to whether or not a health professional would refer their clients to a falls prevention program. Trustworthiness is established when a key informant supports the quality of service a particular falls prevention program provides and shares that information with health professionals which is similar to Provan et al. (2009) research in the area of trustworthiness in organizational networks where an

organization will share information with other organizations about quality services that they trust and have previously used.

As outlined in previous literature, this study also illustrates that having a previous successful referral (i.e., timely, client received appropriate service, and client was satisfied with quality of service) with a particular falls prevention program which in turn ensures a high level of trust. Therefore, health professionals referring their future clients to that program would result in quality service as reflected in Provan et al. (2009) work on supporting quality services provided by organizations that they have had past positive experiences with. A strong, trusting relationship between the organizations giving and receiving referrals leads to enhanced preventive care for clients as they are provided with appropriate services. Grace et al. (2006) outlined that in the event that a trusting relationship is not established, the clients do not receive appropriate services which negatively impact their health in the area of cardiac rehabilitation.

A factor associated with developing trust is reputation. Falls prevention programs with a strong reputation in the community were more likely to garner additional referrals. Programs with a strong reputation are considered to have greater legitimacy therefore, more organizations want to refer their clients to them (Provan et al., 2009). Therefore, establishing a solid, trusting relationship among falls prevention organizations is essential to providing clients with appropriate and timely care. It is important to note the political and funding environment in which a number of these services and programs exist. It was clear that falls prevention programs and services are often organizations that are based on contract which rely on ministry based funding. Some organizations have benefited from longer term sustained funding which in turn allows them to foster relationships over time



and to develop a solid reputation which in this study appear to be central organizations (Cousens & Slack, 1996; Scheirer, 2005).

However, smaller scale programs and services that may be funded based upon governmental priorities and strategies must seek different ways to build their reputation and trust as they enter the falls prevention circles (Cousens & Slack, 1996; Scheirer, 2005). Smaller agencies and programs were limited by the number of clients they could serve in a timely manner and thus were challenged to garner sufficient funding to continue the program in the future (Cross, Dickmann, Newman-Gonchar, & Fagan, 2009). Sustaining a program may be difficult for a single agency as it is required to apply for funding when it no longer has the resources to do so (Cross et al., 2009). Furthermore, there is no guarantee that these single agencies will be successful in obtaining funding to run their programs in the future and may make them less likely to link and refer clients (Cross et al., 2009; Grace et al., 2006).

The current funding model for falls prevention programs and services is inconsistent and does not allow for effective continuity of care for clients. This study suggests that it is essential to focus on linking with falls prevention organizations through open communications and networking opportunities to build trust and reputation to these programs which would enhance the referrals to these services. For example, recently a request for proposals for falls prevention exercise classes was issued from the LHIN which provides funding for 48 weeks (HNHB LHIN, 2013). Programs can start however, there is little clarity as to whether they will be sustained. The research outlined here suggests that this uncertainty in the current funding and subsequent program environment may not be an optimal means for ensuring access to these services; just because there are

more programs does not mean that they will be appropriately referred to due to their relative newness and the lack of awareness and trust by the referring professionals.

Awareness of falls prevention programs in the region is a key component influencing referral decisions by the health professionals. The greater number of falls prevention programs that health professionals are aware of in the community, the more likely they will refer their clients to these services; which has also been seen in other literature (Brandt, Ali, Sabel, McHugh, & Gilman, 2008; Nolan, Pace, Iannelli, Palma, & Pakalns, 2006). However, the results of this study show that community care professionals have greater awareness of falls prevention programs than primary care professionals. This finding is congruent with Matthews, Baker, and Spillers (2002) study which found that primary health care professionals are not aware of many cancer support services therefore, limits the number of referrals they were able to initiate on behalf of their clients. The present study similarly found that primary care professionals are preoccupied with providing medical care which results in having minimal awareness of community care services (Middlebrook & Mackenzie, 2012). This is not particularly surprising due to the fact that primary care offices are often overburdened with patients (Sanmartin et al., 2000) and deal predominantly with immediate health concerns as compared to those concerned with health promotion and the preventive aspect of health (Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Yet, this is an unsettling and major disconnect as we know that primary care is often the first point of contact for individuals at risk of a fall (Salter et al., 2006). When examining the responses of the community providers, it was clear that they were more aware of the existing programs so it is

possible that just one referral to the “right” organization could make the difference for that client to be connected to other services.

An interesting finding from this current study is that falls prevention organizations do not appear to have formal referral policies regarding falls prevention. All of the organizations interviewed stated they have informal practices that are understood and promoted throughout their organization however, no formal policies are in place. Some organizations mentioned that they are currently in the process of developing formal referral policies and hope to complete it in the coming years. The lack of formal referral policies result in each organization developing their own informal referral practices which in turn affects how timely referrals are processed. Furthermore, organizations with fewer human resources are less likely to become well-versed in these informal referral practices. Therefore, these smaller scale organizations would likely be on the periphery of the network and not the central hub of the network due to limited resources and power (Cousens & Slack, 1996). Health professionals mentioned the lengthy process involved when initiating referrals as they spend time understanding each organization’s informal referral practices. If the process of understanding the organization’s informal referral practice becomes too cumbersome, clients were not referred to the organization and the provider would make alternative arrangements and solutions for services for the client. This is an interesting finding in light of the fact that the government has invested \$28.9 million into HNHB LHIN’s Aging at Home funding for senior programs and services in 2009-2010 (HNHB LHIN, 2009), yet there remains a lack of way to link these services effectively and efficiently for the clients they are aiming to serve.

Similar to other studies (Child et al., 2012; Chou, Tinetti, King, Irwin, & Fortinsky, 2005), health professionals shared the barriers that clients experience when accessing falls prevention programs and services. One main barrier emerging from this study is the transportation issues that clients experience when accessing falls prevention services. Some health professionals noted that clients in rural or remote areas have greater difficulty engaging in falls prevention programs due to limited transportation available. Transportation issues prevent clients from accessing key services necessary to improve their health (Grace et al., 2006; Matthews et al., 2002). Referring clients to appropriate falls prevention services is important however, transportation issues should be resolved for clients to access the referred services. Therefore, when moving towards a more coordinated effort for referral pathways, it is significantly important to ensure a holistic understanding and approach to the patient in relation to the social determinants of health and potentially including transportation services to the falls prevention network (Schulz et al., 2005). You can refer clients through effective pathways, policies, and processes, but if they are unable to obtain the service then this is a mute point.

Many health professionals emphasized the need to develop an electronic database of falls prevention programs in the region for every health professional to access. This database would allow health professionals to view all the falls prevention programs offering on one website and they do not have to search through several websites to locate program information. This database would certainly increase awareness of falls prevention programs to new and experienced health professionals. A listing of locally available programs and services would benefit every health professional who is interested in referring their clients to specific services (Matthews, 2002).

Health professionals interviewed stated that networking opportunities are essential for understanding and becoming aware of existing and new falls prevention programs in the community. Networking on community groups or coalitions are opportunities for health professionals to share information about their program and speak to others who provide similar or different programs. Since these network meetings are bi-monthly, health professionals are able to have face-to-face conversations with one another and provide updates on their programs. Overall, health professionals strongly believe networking opportunities allow them to expand their program database and provide better services to their clients.

## **Chapter 6: Conclusion**

Successful falls prevention referral pathways require improvements in how referrals are made (i.e., a standardized referral form, electronic program database) however, a key aspect of falls prevention is the connections between health professionals involved in falls prevention programming. It is important to have the appropriate logistics in place for seamless falls prevention referrals however, it is more important to establish a rapport and relationship with falls prevention program professionals to establish trust. A number of interesting outcomes of this study are health professionals' awareness of falls prevention programs, importance of networking on local committees, future development of formal referral policies, client transportation issues, and uncertain funding environment. There is a need to focus on health professionals becoming aware and building relationships on local networking committees to discuss their falls prevention programs which will most likely lead to referrals for clients. After rapport has been established, the appropriate referral logistics will more likely lead to seamless referrals. It was found that informal practices are implemented in falls prevention organizations and formal referral policies are in early developmental stages. Therefore, development of formal falls prevention referral policies would help to minimize health professionals' time invested in understanding each organization's informal referral practice and improve the timeliness of client's care. A vital finding of this study is the transportation issues that clients experience when participating in falls prevention programs and services. Participants emphasized the importance of including transportation services in the falls prevention network to increase client participation in falls prevention programs. Furthermore, it is important to note that the uncertain funding

environment of falls prevention programs leads to lack of continuity of care for clients. Sustained funding is difficult to achieve therefore, some programs are funded for a few years and then eliminated which is a detriment to clients who depend on these programs for continuity of their care.

The present study supports previous literature by emphasizing the importance of open communication among health professionals and informal communication that leads to professional relationships which heightens practitioners' awareness of falls prevention programs. Trustworthiness of the falls prevention programs was a key determining factor of whether or not health professionals will refer their clients to specific services in the region. Furthermore, improved primary and community care organization collaboration would significantly improve client referrals from primary to community care services. The new findings that emerged from the study was the focus on obtaining program feedback from health professionals and clients to improve the referral pathways. As well, the uncertain funding environment of falls prevention programs and services prevents clients from receiving continuity of care.

## **Limitations**

**Sampling Strategy.** The present study employed a sample size of fifteen participants and the researcher felt saturation was reached. However, a larger sample would have allowed for more perspectives from falls prevention organizations to be considered. The current study used purposeful sampling technique where three central, five peripheral, and three purposefully selected organizations were interviewed. Potentially the use of a stratified purposeful sampling technique would achieve balance in the organizations interviewed as an equal number of central, peripheral, and purposefully

selected organizations would be selected. Health professionals working in the discharge unit of emergency departments are often seeing patients before they leave the hospital and therefore have an important role in referring clients to falls prevention programs and services in the community (Bell, Talbot-Stern, & Hennessy, 2000). These professionals were not included in this current study however, in thinking more broad system level about all of the individuals involved, they play an important role in the referral pathways for a segment of the population.

**Network Survey.** The current study included participants that were central and peripheral on the network map as well as those who were not on the map but were deemed as important members to the falls prevention referral pathways. The participants who did not complete the network survey did not allow us to visualize if they would have been central or peripheral organizations. Specifically, two central organizations on the network map, the LHIN and a community service centre did not complete the survey after several attempts of contact from the researcher. Their feedback would have been valuable in understanding the falls prevention referral pathways.

**Research Framing.** The present study employed a single case study however, a participatory action research (PAR), more specifically, a community-based participatory research (CBPR) could have been applied to this study to answer the research questions. PAR is defined as a reflective process where the researcher and the researched (i.e., the participants) are involved in conducting a research study based on an issue that the researcher and the researched identified as a priority (Baum, MacDougall, & Smith, 2006). In terms of public health services research, an approach from PAR that is focused on community issues is CBPR. CBPR is defined as “a collaborative process that



equitably involves all partners in the research process and recognizes the unique strengths that each brings” (Minkler, Blackwell, Thompson, & Tamir, 2003, p. 1210). The present study collaborated with FPNN members however, designated researcher roles for the participants were not assigned. Minkler et al. (2003) identified two main challenges that may arise from conducting CBPR which are extensive time investment and need for sustained funding to pay for participants’ stipend. These two challenges would most likely have affected this current study as the researcher is a Master’s student with time constraints to complete degree requirements within two years of full-time studies and funding was not acquired to sustain participants’ stipends. The application of CBPR would have allowed for a unique framing of this study and increased collaboration between the researcher and the FPNN.

## **Implications**

The implications of this study can be seen at two main levels of policy and practice. These implications were developed by examining the themes and informed by the recommendations (i.e., electronic program database, an electronic referral form, educating office staff, education days) that the participants outlined in the interviews.

### ***Practice Implications***

Primary care professionals state that FPNN marketing strategies would educate office staff on the falls prevention programs available in the region and in turn increase referrals to those programs as office staff is in constant contact with primary care professionals. They would provide program information to primary care professionals or directly to the clients.

Organizations involved in this study had a referral form specifically developed for their own organization. Although these referral forms provide the information necessary for the organization that developed it, it is difficult to have seamless referrals with organizations using different referral forms. A recommendation that emerged from the study is to develop a standardized referral form containing client information applicable to health professionals involved in falls prevention referrals. This standardized form can be developed with a group of health professionals involved in falls prevention and sharing the key client information that should be included. The benefit of a standardized referral form is for health professionals to understand what client information is provided and minimize the confusion and miscommunication.

An electronic database with program and referral information was recommended from health professionals involved in this study. Awareness of falls prevention programs in the region was revealed to be a key element to the variety of referrals health professionals could initiate for their clients. The convenience and ease of obtaining falls prevention program information on one website could help to reduce the number of hours health professionals use to increase awareness of new and current programs.

Primary care professionals involved in this research mentioned that they use an electronic system to store client information. That particular system can also store fillable PDF referral forms of falls prevention programs. They indicated that developing an electronic standardized referral form would most likely increase the number of referrals they initiate as it would be convenient for them to complete the referral form during the client's visit in their office.

Primary and community care professionals emphasized the importance of face-to-face communication with one another to establish rapport and share their program offerings which in turn leads to referrals. These meeting opportunities encourage the development of professional relationships which builds trust and strengthens communication. It is important to note that trust and strong communication among health professionals should be established to facilitate seamless referrals. Therefore, FPNN committee meetings are vital opportunities for primary and community care professionals to attend and foster professional relationships with other health professionals regarding falls prevention programs and services.

A centralized system with falls prevention programs and services information would be beneficial to health professionals and clients who are interested in falls prevention offerings. This system would allow health professionals and clients to connect with an operator who would inform them of the falls prevention programs available and connect them to those services. Therefore, promoting the integration of services and improving the timeliness of care for clients.

## **Future Directions**

### **Practice**

Future directions for this study are to create opportunities for primary and community care professionals to meet face-to-face to discuss falls prevention programs and services. These meetings (e.g., FPNN committee meetings) encourage the development of strong communication and trust among health professionals which in turn leads to referrals. After trust and strong communication have been established among health professionals, it is imperative to develop strategies that will make the

recommendations (i.e., a standardized referral form, electronic program database, centralized system) feasible. It is important to note that trust and strong communication among professionals are the main factors that facilitate referrals and improved referral tools (i.e., standardized referral form, electronic program database, centralized system) supports this process.

## **Research**

A potential area of research would be to develop an electronic standardized referral form and to test the effectiveness of such a form using a pre- and post-test assessment. Furthermore, in this study it would be important to link in the effect that these enhanced referrals have on health outcomes as this was stated by Cunningham et al. (2012) as an important outcome measure for networks. The first study would be to develop a standardized falls prevention referral form by interviewing primary and community care professionals involved in falls prevention to gather the important information that would be required to be on the form. As well, it will be vital to focus on how privacy laws influence the development of the referral form as necessary safeguards need to be examined to secure personal client health information when referrals are facilitated among organizations. A subsequent study could test the effectiveness of these standardized referral forms in practice by using a pre- and post-test assessment which include measures of process, structure, and patient outcomes. These two studies would allow researchers and stakeholders to understand how standardized referral forms and aspects of trust, communication in falls prevention programs which may be able to be replicated and applied to other health settings (i.e., mental health, dental health, nutrition) to improve their referral processes.

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## **Appendix A – Letter of Invitation**

**April 24, 2012**

### **Understanding Referral Processes of Falls Prevention Programs through Social Network Theory**

Principal Investigator: Dr. Madelyn Law, Assistant Professor, Department of Community Health Sciences, Brock University

Student Principal Investigator: Ms. Phuc Dang, MA Candidate, Department of Community Health Sciences, Brock University

I, Dr. Madelyn Law, Principal Investigator and Ms. Phuc Dang, Student Principal Investigator, from the Department of Community Health Sciences, Brock University, invite you to participate in a research project entitled Understanding the Referral Process of Falls Prevention Programs and Services through Social Network Theory.

Canada's aging population is increasing with individuals in the 65+ age group experiencing a high rate of falls. The Hamilton, Niagara, Haldimand Brant LHIN has the largest population of individuals who are 65+ thus having targeted health care priorities to ensure the health of this population. Fall prevention is one of these targeted areas as we know that falls can result in negative health consequences for individuals which may result in hospitalizations. Currently there are numerous services and programs addressing this issue but the extent to which these programs and services are connected and collaborate to provide optimal patient centred care has been questioned by both health care practitioners and decision makers. Health care system navigation can be a difficult process for patients who may not know where to get the services they require. Therefore, the purpose of this research is to understanding the facilitators and barriers of the referral process and communications among Niagara region falls prevention programs through the lens of social network analysis theory.

As a stakeholder in falls prevention programming and services we would like to understand your perception of referral process and communications. Should you choose to participate, you will be asked to participate in an individual interview that will take approximately 30 minutes of your time. This will be scheduled at a time and location that is convenient for you.

There are no direct benefits to you as a participant. However, the potential benefits to the scientific community will be an enhanced understanding of how organizations collaborate, connect and communicate to allow for the development of more effective and efficient referral methods for seniors who utilize falls prevention services and to enhance the clients experience in general.

This project is a single site activity that will include 12-15 individual interviews.

If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, [reb@brocku.ca](mailto:reb@brocku.ca))

If you have any questions, please feel free to contact me (see below for contact information).

Thank you,

Madelyn Law, Ph.D.

Assistant Professor, Principal Investigator

(905) 688-5550 ext. 5386

[mlaw@brocku.ca](mailto:mlaw@brocku.ca)

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board [**11-268-LAW**].

## **Appendix B – Interview Guide**

### **Introduction**

**PD:** *Thank you for taking the time to participate in my study, I am very appreciative. Before we begin the interview, I would like to tell you about my research study. I am currently a graduate student at Brock University pursuing a Master's degree in Community Health Sciences and I am interested in the field of inter-organizational networks and public health. I want to learn about the inter-organizational networks in the falls prevention programs, specifically the referral processes to improve the falls prevention programs navigation among clients. It is my hope that I can continue to conduct research on effectiveness and efficiency of client services in the health care sector. I want to learn and understand about your experiences with falls prevention referral processes, the effective referral strategies available, and the challenges you have faced when receiving or giving referrals. I want you to know that you are not obligated to answer any of the questions that may make you uncomfortable. I hope that this can be a relaxed conversation between two individuals. Do you have any questions or comments prior to beginning? The first thing I would like to talk about is your professional role in falls prevention. I want to get some background information to gain a better understanding of your work.*

### **Section 1: Background Information**

1. What is the title of your professional role? What organization do you work for? What is your main role in the organization?
2. How long have you been in this position? What training do you have for this type of role?
3. How important is referrals in your line of work? Do you spend the majority of your time receiving or giving referrals to clients?

**PD:** *Thank you for sharing with me. I would like to talk about the practice and process of referrals involved in your role.*

### **Section 2: Practice and Process of Referral**

1. What is the typical referral process in your line of work?
2. How many organizations are you currently working with when receiving or giving client referrals?
3. What is your relationship with organizations that facilitate the process of receiving or giving referrals?
4. What factors are core to creating and sustaining the relationships you have with other organizations?
5. How do pre-existing professional or social relationships influence your referral strategies?
6. Are there particular organizations that you prefer to refer with? Why?

7. What communication strategies do you have to facilitate referrals to your organization? What types – electronic, phone calls, others? What communication strategies do you believe are the most effective? Why?
8. How does information sharing with organizations influence your referral strategies? Is the information shared among organizations facilitating or hindering your referral process? If so, can you provide an example?

**PD:** *Thank you for sharing with me. I would like to talk about the perceived effectiveness of the referral process.*

### **Section 3: Perceived Effectiveness of the Referral Process**

1. What do you feel you need to know about the organizations to make effective referrals? How does this information change your method of client referrals?
2. How do you enact referrals in your daily work? Are some methods more effective than others? If so, can you provide an example?

**PD:** *Thank you for sharing with me. I would like to talk about the perceived challenges of the referral process.*

### **Section 4: Perceived Challenges of the Referral Process**

1. What factors prevent you from referring to specific programs? What strategies do you believe will help to facilitate referrals to specific programs?
2. What challenges do you face when receiving or giving referrals? What strategies do you usually use to deal with these challenges?

### **Conclusion**

**PD:** *Again, I want to thank you for participating in this study. The information that you have shared with me will be extremely helpful in the inter-organizational networks and public health fields. Is there anything that you would like to add to our conversation that I did not cover? Do you have any questions or comments? I will send you a copy of the transcript when it is complete to give you the opportunity to check for accuracy prior to the data analysis process. Please contact me via e-mail if you have any questions or concerns.*

## Appendix C – Research Ethics Board Clearance



Brock University  
Research Ethics Board  
Tel: 905-688-5550 ext. 3035  
Email: reb@brocku.ca

Social Science Research Ethics Board

### Certificate of Ethics Clearance for Human Participant Research

DATE: 5/15/2012  
PRINCIPAL INVESTIGATOR: LAW, Madelyn - Community Health Sciences  
FILE: 11-268 - LAW  
TYPE: Masters Thesis/Project STUDENT: Phuc Dang  
SUPERVISOR: Madelyn Law  
TITLE: Understanding Referral processes of Falls Prevention programs through Social Network Theory

#### ETHICS CLEARANCE GRANTED

Type of Clearance: NEW Expiry Date: 5/31/2013

The Brock University Social Sciences Research Ethics Board has reviewed the above named research proposal and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement. Clearance granted from 5/15/2012 to 5/31/2013.

The Tri-Council Policy Statement requires that ongoing research be monitored by, at a minimum, an annual report. Should your project extend beyond the expiry date, you are required to submit a Renewal form before 5/31/2013. Continued clearance is contingent on timely submission of reports.

To comply with the Tri-Council Policy Statement, you must also submit a final report upon completion of your project. All report forms can be found on the Research Ethics web page at <http://www.brocku.ca/research/policies-and-forms/research-forms>.

In addition, throughout your research, you must report promptly to the REB:

- a) Changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- b) All adverse and/or unanticipated experiences or events that may have real or potential unfavourable implications for participants;
- c) New information that may adversely affect the safety of the participants or the conduct of the study;
- d) Any changes in your source of funding or new funding to a previously unfunded project.

We wish you success with your research.

Approved:

Michelle McGinn, Acting Chair  
Social Sciences Research Ethics Board

**Note:** Brock University is accountable for the research carried out in its own jurisdiction or under its auspices and may refuse certain research even though the REB has found it ethically acceptable.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of research at that site.

**Appendix D – Invitation E-mail Script**

Dear \_\_\_\_\_,

On behalf of Dr. Madelyn Law, Brock University, I am sending you this letter of invitation to be involved in a research study to understand barriers and facilitators of the referral process in falls prevention programs and services.

Once you have read the attached letter of invitation please contact Dr. Law to set up a time for the interview.

Sincerely,

## **Appendix E – Informed Consent Form**

**Date:** April 24, 2012

**Project Title:** Understanding Referral Processes of Falls Prevention Programs through Social Network Theory

**Principal Investigator (PI):** Madelyn Law

Dr. Madelyn Law, Assistant Professor, Department of Community Health Sciences, Brock University, (905)688-5550, ext 5386, [mlaw@brocku.ca](mailto:mlaw@brocku.ca)

**Student Principal Investigator:** Phuc Dang

Ms. Phuc Dang, MA Candidate, Department of Community Health Sciences, Brock University, pd06us@brocku.ca

### **INVITATION**

You are invited to participate in a study that involves research. The purpose of this study is to explore facilitators and barriers of the referral process in falls prevention programs and services.

### **WHAT'S INVOLVED**

As a participant, you will be asked to participate in an individual interview session that will take approximately 30 minutes of your time. Your interview will be audio recorded for transcription purposes. This study is a single site project including approximately 12-15 participants.

### **POTENTIAL BENEFITS AND RISKS**

There are no direct benefits to you as a participant. However, the potential benefits to the scientific community will be an enhanced understanding of how organizations collaborate, network, communicate and connect to allow for the development of more effective and efficient referral methods for seniors who utilize falls prevention services and to enhance the clients experience in general. There are no known or anticipated risks associated with your participation in this study.

### **CONFIDENTIALITY**

The information you provide will be kept confidential. Your name will not appear in any report resulting from this study; however, with your permission, anonymous quotations may be used. However, the results will reflect aggregate grouping of commonly discussed ideas from the interviews by way of overarching categories and themes identified by everyone involved in the study.

Data collected during this study will be stored in a locked research cabinet in Dr. Madelyn Law's office. Data will be kept for seven years after which time all transcript hard copies will be shredded and computer files deleted.

Access to this data will be restricted to Dr. Madelyn Law and Ms. Phuc Dang.

## **VOLUNTARY PARTICIPATION**

Participation in this study is voluntary. If you wish, you may decline to answer any questions. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled. To withdraw from the study you may contact Dr. Madelyn Law or Ms. Phuc Dang at the contact numbers provided above.

## **PUBLICATION OF RESULTS**

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available in a report form that will be emailed to you at your request. The approximate date of the final results and report completion is September 2013.

## **CONTACT INFORMATION AND ETHICS CLEARANCE**

If you have any questions about this study or require further information, please **contact Dr. Madelyn Law** using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University [11-268-LAW]. If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, [reb@brocku.ca](mailto:reb@brocku.ca).

Thank you for your assistance in this project. Please keep a copy of this form for your records.

## **CONSENT FORM**

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



**Research Results and Report Request Form**

Note: This form will be kept separate from consent form and interview data to ensure confidentiality

I would like to receive the report with the results of this study. You may send this report to the email below:

E-mail: \_\_\_\_\_

## Appendix F – Results for Qualitative Data

### Internal Factors

#### Theme 1: Health professionals initiating services

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“We give referrals on a frequent basis so we see upwards between 700-1200 seniors a year. And if we're noticing the individual isn't wearing the appropriate footwear or is struggling with their mobility, we make referrals through multiple organizations from everything from the [physiotherapy] programs to [foot care] initiative. We make referrals and do those usually by e-mail, phone or fax.” (Program Manager, Community Care)

“Connecting people to the right services, that’s a big part of what we do with our [program’s] clients.” (Program Manager, Community Care)

“I don't want to say ‘okay, you want that [service]?’ Call this [service], call that [service], they (the clients) are not going to do it and if they get any of those answering services, they hang up because they don't know how to deal with that. I want to know that I'm calling, I'm going to get results and I'm going to help this [client] and they don't have to do anything. All they have to say is ‘I have a need’ and I got that covered.” (Program Coordinator, Community Care)

“When I meet with somebody and going over their situation [with him/her], I might find three or four [aspects] that they might need assistance with [and] I make referrals [for falls prevention services].” (Program Coordinator, Community Care)

“The focus of my role is to identify what the [client’s] goals are for attending the program and then connecting them to [additional] services that can help them achieve their goal.” (Program Coordinator, Community Care)

“My job is once I get a referral, I do a home visit, do an assessment of the client’s psychosocial and physical needs. Once I've obtained all of that [information] then as long as the [client is] willing, I [will] refer them to the proper resources available, the proper programs that will benefit them.” (Program Coordinator, Community Care)

“We haven't come across [a situation where clients] need [other services] other than physio so we do have [a physiotherapy clinic] on site. As soon as the client is discharged from the hospital and needs physio, I contact the lead in [that physiotherapy clinic] and they set up physio. The client can have one-on-one sessions or they get assessed and attend the classes that are on-site as well.” (Program Coordinator, Community Care)

“I advocate for clients so if I meet up with someone and they're having problems [related to falls] I either help them with that or I see that they get referred to someone who provides that service professionally. If they need specific [services], I would make sure they get what they need.” (Program Coordinator, Community Care)

“We're trying to give the client as many services that we can here at our centre such as medical care, foot care, or health promotion services. We certainly want to keep [and] maintain our clientele here [at our centre] and give them everything that we can here. But if there is a need that we can't meet or we just don't have the service for, then we would refer outwards for sure.” (Allied Health Professional, Community Care)

#### Sub-theme 1: Health professionals assessing severity

“It's not only the family doctors that can make a referral to me. If there's somebody from our counselling department and if they've been out visiting a client and the client has remarked or the person sees that this [client] is at risk for a fall or that they reported a fall then that person can make a referral towards me.” (Allied Health Professional, Community Care)

“Even though we want to advocate for them (the clients) to be independent and make those phone calls themselves, we find that it's more effective [when] we offer to make that phone call or we send a fax to the [falls prevention program] or [community care centre] after assessing the client.” (Program Manager, Community Care)

“We get steady flow of referrals, we don't ever get a pause. And then as we assess needs, we're referring out [to other falls prevention programs] so it's not really based on targets, it's based on needs and meeting the [client's] needs.” (Program Manager, Community Care)

“I had a patient who had two significant falls and she's been hospitalized for both. She's very high risk with many medical problems, not by age, she's only in her early 70s but she has many medical problems. I felt that her home environment and her management of her home environment was a significant risk in terms of these falls so I referred her to [a community care centre].” (Nursing Professional, Primary Care)

#### Sub-theme 2: Falls prevention programs feedback

“If we were to receive any type of feedback whether it's ours to give or ours to receive, I would say that the best way to do so would be an electronic survey database so somebody would upload the results and then we would be able to do a quick collection. That's not always realistic, the other way would be a hard copy survey that we would be able to receive and process at our end.” (Program Manager, Community Care)

“We took some of the suggestions and some of the successes and perhaps not so successful methods that other areas have used [to collect client feedback] and we've decided that I'm going to be doing a follow up telephone calls with some of the clients.” (Program Coordinator, Community Care)

“We do [client] satisfaction surveys.” (Program Coordinator, Community Care)

“I go by the feedback that I get from my clients, whenever I refer them to any program and sometimes, I mean I've been doing this job long enough to know ahead of time, to be

able to say to [a client] 'it's going to be a lot of red tape and paperwork, I'm warning you before you call there.' So once you make the call and get what you need, call me back or please follow up with me and we'll take it from there." (Program Coordinator, Community Care)

"If I found that [clients] were getting back to me and saying that 'this is not what I thought it would be' or they had bad feedback about the service, I would take that into consideration before I would refer [a client to that service] again." (Program Coordinator, Community Care)

"I get some informal feedback [such as] they enjoyed [the program] or they feel better from going or they're glad they were connected to it because they didn't know those services existed. In terms of that way, we [receive] feedback but we've never done a formal questionnaire." (Program Coordinator, Community Care)

## Theme 2: Communication strategies

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"We're in a network with other [similar] services that we do, like the coordinators, they're attached to long-term care and we kind of try to have our own best practices. If something happens to [a client], I would [ask the coordinators in the network what their suggestions would be to solve the issue]." (Program Coordinator, Community Care)

"I've worked in home care, in hospitals, in rehab and so I've amassed a network of individuals that I know and network with. Actually I should say, I network with other physiotherapy partners as well and that's just very informal. And that is a form for information exchange as well." (Allied Health Professional, Primary Care)

"I'm not from this region, I've only been here four years so I'm learning the different resources that are out there but I have lots of resources of my own here [and suggestions from others in my network]. They'll most often suggest [the community care access centre] because it's the [largest] community resource for people." (Nursing Professional, Primary Care)

## Sub-theme 1: Open and communication

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"Having regular contact and communication [with falls prevention program coordinators] about what their service is and isn't and their [eligibility] criteria update." (Program Manager, Community Care)

"It is important to have connections [and good] communication [with the falls prevention organizations]. I would say being able to have open lines of communication and feedback from the [organization]. That's vital when it comes to follow up for referrals that we make. We appreciate hearing back [from the coordinators] about the referral update." (Program Manager, Community Care)

“I appreciate having a good, strong open communication with my resources. I like to be able to call them and follow up and say ‘I sent Mrs. Smith to you, has she seen you?’ Yes she has and this is kind of what I’ve done and that dialogue only takes place as long as of course, the client agrees that that can happen. I guess it’s just to have the trust in that resource and to see results and the feedback that I get from the clients. I don’t always, I rarely call, if it’s a complicated case, I will call and check up to see how everything is but more times than not, I don’t. It’s just a trust and knowing that the patient is going to be cared for.” (Nursing Professional, Primary Care)

### Theme 3: Formal partnerships

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“They (falls prevention programs) can provide the services that my clients need and we’ve developed some good informal partnerships. We do have formal partnerships too.” (Program Coordinator, Community Care)

“I think [partnership development] is agency wide as there are other individuals in upper management that are involved on many different fronts with inter-agency collaborations all the time. They work together with various organizations to foster close collaboration which best fit clients.” (Program Manager, Community Care)

“For [my program] which I’m most directly involved with at this point, people will often ask, ‘well how long does it take for us to get into the home?’ And we’re in the home quite quickly, usually within a couple of weeks. Sometimes sooner, depending just how packed the schedule is, it could be about three weeks but [the community care access centre] usually has a wait time of 3-6 months which is longer than ours. So we’ve established a great partnership with them to help meet client need by taking some of their clients and in return, we can refer clients back to them that are at high risk needs.” (Program Manager, Community Care)

“We have a great partnership with [a local falls prevention organization] where I facilitate referrals for clients. It’s easy because we’ve established a partnership with them.” (Program Coordinator, Community Care)

“We have partnerships with the MS Society a health centre in Toronto so we’ve established partnerships out in the community.” (Program Coordinator, Community Care)

“We have partners within our collaborative and I work with them the most because they are all included in our team. Then there are a few outside agencies that we partner with regarding wellness, physical activity, eating well, and managing stress. I feel confident in referring my clients to these services because they are an established partner with our organization.” (Program Coordinator, Community Care)

“A lot of the programs at [our organization] facilitate and receive referrals from various local falls prevention programs in the community and that is due to partnerships that we’ve established.” (Program Manager, Community Care)

### Sub-theme 1: Individual relationships

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“I’ve established partnerships with two key individuals who provide foot care. There are few other community resources I suppose that I’ve got at my fingertips and I’ve spent time establishing partnership with these people, either at their establishments or they’ve come to my clinic and offer to me the understanding of what it is that they have to offer to my patients.” (Nursing Professional, Primary Care)

“Putting up my hand to be involved and I find that partnerships really come down to individual relationships.” (Program Manager, Community Care)

“I pretty much have a working relationship with [falls prevention organizations]. I know a lot of the coordinators by first name and I’ve met them. If I haven’t met them, then I do try to make a point of doing so when there’s a new agency or program in the network.” (Program Coordinator, Community Care)

“I don’t have many linkages in [the region] and I didn’t have much of a relationship with public health. So I connected with [a program manager] from [a community service agency] and that was a great connection to make because she knows about everything related to falls prevention and that was helpful.” (Program Manager, Community Care)

### Sub-theme 2: Face-to-face meetings

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“So the partnership building, I really feel strongly about getting involved and face-to-face meetings are important. If we’re doing some good work at the meetings, a lot can be accomplished.” (Program Manager, Community Care)

“I really think it’s about face time. When you actually see people and have the face-to-face conversations and learn about what’s new with their program. I find that those face-to-face meetings are the most helpful.” (Program Manager, Community Care)

“I wouldn’t necessarily need to see that person regularly because I know it’s a good program. I’ve referred there for years but I guess in the areas outside of [this region] where I’m newer to the system that kind of face-to-face or regular meeting has been helpful.” (Program Manager, Community Care)

### Theme 4: Trust

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“I would refer to an organization because the [health professional] seems to understand what they’re offering and if what they offer is what I deem to be of good quality for my clients, then I will facilitate the referral.” (Program Manager, Community Care)

“For sure, I definitely want to know if the program is successful and what’s involved in it. I want to make sure that any programs that I’m referring my clients that they are quality programs.” (Program Coordinator, Community Care)

“The frequency of the program access and success in getting the referral strengthens the trust I have with organizations. If I'm regularly referring to a particular organization and they say they can process the referral but they really don't follow through, then I'm less likely to refer to them in the future. So definitely follow through with the advertised service is important and ease of referral as well is important to build trust.” (Allied Health Professional, Primary Care)

#### Sub-theme 1: Familial perspective

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“When I refer a client, I will always say to them ‘I trust the organization completely or I wouldn't send you there.’ I would never send a patient some place that I wouldn't send my child or my parent and that's a trust that I have to build with that resource, which I have and I guess that's maybe partly why I don't have a huge resource selection in the community. I have just a few, they meet the needs for my patients and I don't need or want three different establishments that are going to do gait studies and establish the need for custom footwear or not for my patients.” (Nursing Professional, Primary Care)

#### Sub-theme 2: Reputation of programs

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“We realize pretty early on when expanding our program and you're a new organization, you need to build your reputation in the network so people know who they're sending their clients to.” (Program Manager, Community Care)

“So developing good relationships, whether it's with the seniors programs or community service centre is important. We've built quite a good reputation for [our program in the network] so that they can trust that our referrals are legitimate.” (Program Manager, Community Care)

“Referrals are based on an assessment of need so it's important to have good relationships with other organizations. Based on the reputation of the program, well known programs are considered good referrals.” (Program Manager, Community Care)

“I think a lot of it has to do with good training so all the [program] coordinators are trained to keep the level of the program high so that it's consistent across all the different areas. The reputation of the program is considered strong and that really sustains continued referrals.” (Program Manager, Community Care)

“I would refer based on reputation and trying to link a client with who I would perceive would be a good match between their desired need and what I'm aware of about the organization.” (Allied Health Professional, Primary Care)

#### Theme 5: Program awareness

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“Health fairs help with awareness of programs at the initial onset of coming into the falls prevention initiative so it is a good resource.” (Program Manager, Community Care)

“Okay, so program awareness is a big issue for me which is why I came to the [FPNN] group because my intention is to try to coordinate programs for our clinic. So we have a more purposeful approach to falls prevention.” (Nursing Professional, Primary Care)

“I say I am very aware of what's happening in the community or I try to be. My background is in public health so I see a big part of my role is advocacy and working with community resources. So if I didn't know about the falls prevention programs available then how would I expect anybody else to know? When I'm red alert for it right?” (Nursing Professional, Primary Care)

“When I go to a health fair or an expo, I pick up information, bring it back and file it away. Having concrete resources sent to me rather than just an e-mail of the services available is good for me. I mean, I try to read my e-mails thoroughly but I'm not as apt to answer them compared to resources I've picked up at an expo or conference to bring home with me.” (Allied Health Professional, Community Care)

“So a massive issue in primary care and something that you may find across the board is that family doctors do not know what resources are available and if they do know the resource, they do not know what intervention that resource could provide.” (Physician, Primary Care)

#### Theme 6: Referral policies

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“When we receive referrals, it's done directly from the client to the falls prevention coordinator so there's nothing formal, like a form etc. unless we've built a rapport like with the community health centre. We have built them a standard fax so that they have an easy, seamless process referring to us. But it's not something we use across the board so it's direct from the client only.” (Program Manager, Community Care)

“Yes, it's all the protocol that each agency has surrounding it. It's navigating through every organization's policies and procedures and then hopefully amalgamating them into one general policy and procedure.” (Program Coordinator, Community Care)

“It's all the steps involved that other agencies have in place. Sometimes it can be a tedious process for clients to access because the organization has their own protocol and I can't do anything about that because that's the way they've been doing things.” (Program Coordinator, Community Care)

“As of right now, it's just a referral guideline. So it's an understood guideline.” (Program Manager, Community Care)

“No, we don't have a formal referral policy.” (Program Manager, Community Care)



### Sub-theme 1: Informal referral practices

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“What happens is, it's just an internal [practice at this organization] where I make the referrals but I have to send them to the managers of the appropriate department who have been designated to connect the referrals. The managers [direct those referrals] to the appropriate person within their department. Within my own program, I just send [the referrals] directly to the [service] that I want and I notify my clinical supervisor.” (Program Coordinator, Community Care)

“After I give the client the information on [an exercise program] and he/she said to me ‘that sounds like a really good idea, I think I’d like to [enroll in that program].’ That’s simple, I’ll call them to pass the information along. It’s not a formal referral process.” (Program Coordinator, Community Care)

“I will connect [the clients] directly to a service, we have a foot care program right next door to us so I've contacted them directly and they've showed me their referral process so then I just then give it to my client on how to fill out the referral form with their doctor to receive service from them.” (Program Coordinator, Community Care)

“We would just need an understanding as to how the organization want the client information so whether it's e-mail or fax and all the information that they want us to collect. There's some information that we won't collect so that is a restriction. Like if it's everything from a physician's information etc. we won't pass that on without consent.” (Program Manager, Community Care)

“For example, I referred [a client] to [a falls prevention] program but their protocol is that they have to have their form filled out by client’s physician and the process is that it gets treated there once the doctor fills it out. Then they get triaged so they get put in as low risk, medium or high risk. Then that's how they determine how often and when they'll start receiving service. I don't think the client knows that whole procedure it delays service a little bit and they don't realize why.” (Program Coordinator, Community Care)

## External Factors

### Theme 1: Client characteristics

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“All agencies that get involved are given eligibility criteria but it's not necessarily that the [client] needs to have all of them, it's kind of guidelines to go by.” (Program Coordinator, Community Care)

“This isn't my service and there's no cost for my services. The only eligibility criteria would be that the [client] has to be comfortable receiving services in French and of course they would have to be deemed to be in need of OT services from the coordinator who facilitated the referral.” (Allied Health Professional, Community Care)

“So it’s a massive issue not knowing what resources are available, who is eligible and again, if you look at the [rehab] program on who is eligible and who is not, even it’s unclear and I work there; such as who is eligible for the newer rehab program versus the gait program. I don’t know their eligibility criteria and yet your referral comes back and says ‘you’re not eligible.’ Well great, I can do the triaging for you if I knew their eligibility criteria.” (Physician, Primary Care)

#### Sub-theme 1: Transportation issues impact participation rates

“On our end, being able to serve everybody that wants to be in a particular geographical area isn't always something that we can do. I mean it hasn't been an issue but I would say from a person that is making the referral to us, that might be a hinder or a barrier.” (Program Manager, Community Care)

“Transportation is a big issue. We’ve got a great program running and that’s great but how are the clients going to get there? I don’t know anything about paratransit, I don’t know anything about Niagara specialized transit, I don’t know how [the client] will get there.” (Program Coordinator, Community Care)

“So in the past, what I have done is refer the client to the [rehab] program, if he/she was appropriate for it. Although I think I only had one patient who actually went to it because of transportation, the time commitment involved because they don't see it as a priority..” (Nursing Professional, Primary Care)

“You have to remember that a lot of elderly people who are having falls are also having transportation issues. They don't like to say it they don't want to be a burden.” (Physician, Primary Care)

#### Theme 2: Primary and community care collaboration

“We're hoping that as this program starts running, we can make it so that doctors are aware of this program for their elderly or frail clients. They can say there's ‘this program available, here's who you can contact, here's who can provide it for you.’ We're also thinking of involving the hospitals in the referral process.” (Program Coordinator, Community Care)

“Sometimes there's an opportunity that presents itself and you have to be in the right position at the time to move forward with it. That's great and sometimes you have to make those opportunities. So one of the thought I just had that came to my mind was absolutely we have to include primary care but we also have to include the community.” (Nursing Professional, Primary Care)

“We're hoping to have a very good, close collaborative relationship [with community care organizations] where we can refer [a client] and we hear back in terms of what was done and then they can provide us with more information of how to do things better and we can provide them with more information in terms what we actually see when we get the client’s home.” (Paramedic, Primary Care)

### Sub-theme 1: Physician's control of client's care

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"When clients have been referred to us by the family doctor, we don't ever want the family doctor to feel that we're trying to undermine their role, so if they were sent to us for [a service] and then he gets a letter back that I'm recommending exercise and home assessments...so we try to tread lightly there. So often, it just depends on the situation, depends on the physician too." (Program Manager, Community Care)

"I see a lot of [clients] have problems with their diabetes and it's very poorly controlled. As a consequence, they experience [other health] problems so I want to help them get to a program because people do better when their diabetes is managed by an inter-professional team. But then that's very awkward for me because then I'm going to say in my consultation note that the family doctor isn't managing that person's diabetes properly even though I know connecting [the clients] to that organization would be a benefit. We don't want to damage our relationships with our referring...by taking control...we're always conscience of overstepping what the family doctor might think as our role so...if that makes sense. That is a big stressor for me in terms of referrals. I think that worry about the physician relationship is huge for us." (Program Manager, Community Care)

### Sub-theme 2: Primary care professionals and resource constraints

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"I think the programs themselves have to triage better and say what 'we're not accepting the assessment unless one, two, or three are done.' So the program should be stricter and they should be very specific about what they want from the family doctors and I think the family doctors are more than capable of doing their own assessments, they don't have the resources or the time or funding to do that." (Physician, Primary Care)

"Why aren't all family doctors doing assessments? Well, probably because it takes too much time and probably because you get paid for doing a very limited assessment or an extensive assessment to the same degree." (Physician, Primary Care)

"One barrier is an internal factor, probably resource. Not human resources, just how much of my time is allocated to that program so there would be delays on when I approve them for opening the chart. I'll look through a whole bunch of referrals and say 'okay, open them up' and then the [client] officially get on our wait list. But that's based date on receipt of the referrals. They're date stamped so then we can keep them in a chronological order." (Allied Health Professional, Primary Care)

### Theme 3: Networking

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"I would say that the Fall Prevention Network of Niagara has been a good link locally and then brainstorming with sub-groups from that. So trying to think of who is included and excluded from that group. So taking the time to put our feelers out there when you come together and brainstorm with multiple individuals, everything from public health etc. coming to the table and think, who's missing, that was a big help because they all wear a different lens." (Program Manager, Community Care)

“I think that resources such as these networks and the FPNN website are going to be instrumental in the success of this new program because as one person, to get the word out there to all of the agencies within the whole LHIN is...I'm not unprepared to do it because it is a little bit of a daunting task. Having that help of the network to get the word out there and on the website and have that information provided readily available will be a huge help and a huge facilitator of this program.” (Program Coordinator, Community Care)

“Before I joined that network and since I've joined it, I've used three or four of those programs that I didn't know existed. Although I do not provide that [service] directly, I'm interested in what is out there and what other people have to offer and how to access it.” (Program Coordinator, Community Care)

“I think the falls prevention network is good for information sharing. For me that's been the most important aspect, learning about other organizations, learning about what they're doing, learning how they're growing and how things are going to change. I think the FPNN website is a great idea.” (Program Coordinator, Community Care)

“I participate in the Fall Prevention Network Niagara to become aware of what's out there. I mean, not being from this community, it's kind of also a little bit hard to kind of wrap your head around what programs are available.” (Allied Health Professional, Community Care)

“Certainly my involvement in the Fall Prevention Network Niagara has heightened my awareness of what programs are available.” (Allied Health Professional, Community Care)

#### Sub-theme 1: Prioritizing committee meetings

“I've been aware of the FPNN for a number of years. I didn't attend regularly until let's say the last couple of years. I was receiving the minutes and within the last couple of years, it just seems like it was appropriate to be involved by attending the meetings. So that's been a lot of where my awareness has been.” (Allied Health Professional, Community Care)

“Attending the Fall Prevention Network Niagara meetings are instrumental because having already gone to one, it's so helpful! It also helps to meet people and a lot of people have heard about the program, kind of through the grapevine but it's nice to kind of make that connection. The face to the name and hearing a little more about it, it's also been great to hear about what falls prevention programs are also out there.” (Program Coordinator, Community Care)

“The FPNN is important as it allows you the opportunity to get to know the service providers and work with them. Also, sharing success stories of where clients have done well.” (Program Manager, Community Care)

#### Theme 4: Funding

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“If [a program] is cut, you go scrambling to look for any other avenue or agency and a lot of times what happens is, it just sort of gets dumped.” (Program Coordinator, Community Care)

“I would say the big indicator in the last three years is that people have been trying to solidify their funding if they are funded through the LHIN and if they're not funded through the LHIN, it hasn't been as spotty but certainly, regular team and access to those human resources has been a bit difficult because of change over.” (Program Manager, Community Care)

“I can give an example of a particular [falls prevention program] in the region where we bought into their vision and thought it was a great link. We were helping them build their referral database in the [local] region and then they would push back to us for referrals actively and then when they were no longer funded, they ended up...we lost quite a few referrals and that would be one indication of when funding folds meant less referrals for us and for them, obviously.” (Program Manager, Community Care)

“Yes there was [a time when funding was cut]...I think it was called the [name of the program] program...I can't remember...it was just, just within the last year, it...I guess it didn't meet their targets and it was closed. So that program is no longer available to the client.” (Program Coordinator, Community Care)

“The one barrier that comes to mind is of course funding. Funding is a big issue. If we have the funding for everything that our patients required, we'd be well suited to care for the community but funding is always the biggest factor, external factor that is so not in my control.” (Nursing Professional, Primary Care)

#### Sub-theme 1: Private services

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“The first thing I try to do is to access anything that does not have a fee for service because I deal with a senior population that's on a very fixed income. In my experience, the people who get referred to us are the people who are average or needy, you don't very often see anybody who is very affluent because they have the means, they have the resources to obtain private services and they get all the options. All of them get all the options regardless but if some of them are too expensive...people who are on a fixed income, I wouldn't insult them [by recommending private services]. I wouldn't want to make them feel needy or inadequate.” (Program Coordinator, Community Care)

“Have you ever thought about foot care? You have to pay \$20 so a lot of people think I'm not paying \$20 on myself, I'm not worth \$20 to pay. So they'll wait, wait, and wait until they're in urgent need.” (Program Coordinator, Community Care)

“I've also established an extremely good relationship with [foot care company], they are a shoe store. Now what they do is they have a specialist on site who does a gait study on

folks and with that gait study, establishes where the pressure points are, whether they need a custom footwear, whether they just need orthotics, whether there's a shoe specific to the line of shoes they carry for people with diabetes...the downside to that is that they don't accept any insurance policies. It's out of pocket so that's a big, big issue. It's an expense and I can't send all my patients there because they can't afford it." (Nursing Professional, Primary Care)

"I have found it difficult when we get referred for [physiotherapy] reasons that [the client] doesn't [receive the service right away] and it's difficult to get admitted for the assessment so often families would have to pay for it privately and it just never happens." (Physician, Primary Care)

"For funding reasons, the clients are put on a wait list to receive services. They're going to look elsewhere in the meantime and a lot of time, that's what happens. They'll tell me that they've been put on the wait list and what can they do in the meantime. Often times, the only thing that we can suggest to them is to have to pay for it. And it's very difficult for them to pay for services and they don't like to talk about it as a lot of them are on very fixed incomes." (Program Coordinator, Community Care)

"I've referred my clients to physiotherapy before at a hospital where my clinic is located and they have a really long waiting list so I've had to factor that into my decisions about referring. But there's really no other alternative for people that don't have private insurance and it's a tricky situation." (Program Manager, Community Care)

#### Sub-theme 2: Funding and wait lists

"For some of the services that we provide, there are wait lists. Our occupational therapists can see people usually a lot faster than the [community care access centre's] OTs. So they've had to wait list people until they can get caught up. We do the same for some of the services we offer with regards to lab work. We know have a wait list because there's only one person who can do it and that person is booked up solid so as one drops, another one gets picked up." (Program Coordinator, Community Care)

"I know with some of the community service programs, people hear that there's a wait list, they will tend to stop referring." (Program Manager, Community Care)

"So we're pretty lucky that we don't have you know waitlist of 3 months or 5 months. Usually within the month, I'm able to get out and provide the service." (Allied Health Professional, Community Care)

"The demand is definitely more than it was 6 months ago. The wait lists were manageable at that time. We would get people in within, starting on a program within 3 months at the receipt of the referral but right now, we're looking at more like 6 months." (Allied Health Professional, Primary Care)

### Recommendation 1: Electronic database

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“The most time efficient way would be having an electronic tool we could search and have a criterion for an inclusion and exclusion for the referral source and how to make the referral. Even if there is a form that is required to have it built into the database so that when the falls prevention coordinators are out in the community, they can use laptops, Ipads, computers to pull up the information and be able to provide that referral immediately. As opposed to having to do it at that one time they're in the office when they have administrative time. I'd much rather have them be able to access it immediately and process it.” (Program Manager, Community Care)

“A good strategy for referrals probably would be to have a database of programs. I appreciate meetings, meetings are good and committees are good, but being able to log on to a computerized or centralized resource to understand about what's going on in the world then you would even be able to use that with your clients, to help them system navigate as well.” (Program Manager, Community Care)

“I'd love to have a [database] of programs where I know the agency and it has information about their program, location, and eligibility criteria.” (Program Coordinator, Community Care)

“The website would be awesome or the one stop shopping for all people that come to the meeting and this is what the service they offer and we could find all that in one place. So if you miss a meeting or if someone gave an update on a program, it would be made available.” (Program Coordinator, Community Care)

“It would be good and helpful to have an inventory of all the falls prevention programs that were kept up to date.” (Program Manager, Community Care)

“A menu of services through a database would be helpful. I don't know what menu of services is provided at anytime depending on the resource.” (Physician, Primary Care)

### Recommendation 2: Electronic referral forms

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“The second thing is to make sure all the people have the referral form and in the format that they can use so electronic referrals would be great. Most of those organizations are getting paid for us to refer them therefore they drive around here and they'll give us their referral form because that's their business. But if I fill out the form slightly wrong for an x-ray company, they fax me back or they do it or they don't. Basically, they get paid for doing it. If I don't dot my i's and cross my t's on a [local health system's] form, it gets sent back and the patient doesn't get the test. There are different incentives and again, their motivation for doing things is different.” (Physician, Primary Care)

“But other things that make the process better are simplified. Not having to fill out reams and reams of paper. Electronic is the way to go. If somehow there could be an electronic referral form, that would be much easier to complete and process. Even organizing, it's

easier to organize electronically than paper. If the forms could be filled out electronically, I think is the way to go. I'm all for that.” (Physiotherapist, Primary Care)

“So no paper referral form but instead electronic referral form would be my recommendation.” (Nursing Professional, Primary Care)

“Provide a bulletin or again we're electronic so providing us with electronic referral form or even PDF of something so we can just scan into our documents so we have falls prevention. We can look it up, we have a list of resources and we just look it up and that would probably be the best way.” (Physician, Primary Care)

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#### Recommendation 3: Educating office managers and staff

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“However with this kind of program information, sometimes it's more important that the receptionist have it than the provider have it. So they would often be the key person of contact that would be getting information out to the staff.” (Nursing Professional, Primary Care)

“The office staff manage the paperwork so it would be the doctor who would say ‘I want this person referred’ but in most cases, in the offices that I have seen, if a secretary said ‘remember about this agency, do you think that she would be appropriate?’ Then they'd say "oh that's great, I mean..." (Nursing Professional, Primary Care)

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#### Recommendation 4: Education days

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“The best way to change physician behaviour is through peer group. There's a number of different ways of doing this but for example, we are in a 12-person education group that meets every month and we do a talk every month. And if you're just sitting there and you're the only one who's doing something completely different than your peers, you tend to not say a whole lot but you tend to change your practice. If you're going to a talk and someone is dictating didactically about what you should be doing, you rarely take notice unless you feel that they're you know a Nobel prize winner or significantly influencing you. So again, it's your point of influence. Your point of influence tends to be your peer group so drug companies are experts at this so how do they change your behaviour? They do educational lunches and they provide us with samples to give directly to patients and that's the way they will try to influence you to use their products over another. So that's the face-to-face way and then there's the group way.” (Physician, Primary Care)